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## A Study to Determine the Major Influences on Elite Athletes Development

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**A STUDY TO DETERMINE THE MAJOR INFLUENCES  
ON ELITE ATHLETES DEVELOPMENT**

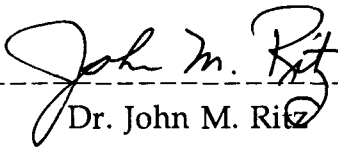
**A RESEARCH PROJECT  
PRESENTED TO  
THE GRADUATE FACULTY OF  
THE DEPARTMENT OF OCCUPATIONAL AND TECHNICAL STUDY  
OLD DOMINION UNIVERSITY**

**IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE  
MASTER OF SCIENCE IN EDUCATION**

**BY  
KELLI JAMES  
AUGUST, 1994**

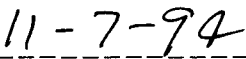
This research paper was prepared by Kelli James under the direction of Dr. John M. Ritz in OTED 636, Problems in Education. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Masters of Science in Education degree.

APPROVED BY:

  
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Kelli L. James

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# CHAPTER I

## INTRODUCTION

In order to be a world class athlete, one must possess the physical capabilities needed to perform. In addition, one must also possess the mental skills needed to attain the highest standards of performance. Many athletes competing at an international level have comparable athletic abilities, but the true "champion" is one who has the "edge" as a result of mental toughness and commitment. This toughness is a result of a confidence level achieved as a result of self control, knowledge, plus support from coaches, family and peers.

A number of women in the United States participate daily in athletic endeavors. From this group there are an elite few who advance to the top of their sport. For women there are very few professional sports that can be practiced after competing at the collegiate level. Because of this, it is doubly hard for a woman to make a commitment to advance to the national and international levels. It has to be done for the love of the sport, thrill of winning, and personal goal attainment. Commitment, sacrifice and respect become the motivating factors in most cases. Studies conducted among national level athletes concluded that the psychological traits required for successful athletes include: determination, ability to compromise, a positive image of self in ones own sport, minimal fear of failure and the ability to control anxiety and stress before and during competition (Labrador and Crespo, 1991, p. 41).

Other sports studies have indicated that an important factor contributing to the development of an elite athlete is the positive influence of a coach. This positive influence can contribute to the enjoyment of the sport by many athletes. In a recent study at the University of Oregon, it was concluded that positive coaching resulted in higher levels in success,



competence, and enjoyment of challenging activities (Black and Weiss, 1992, p. 310).

Many factors contribute to the making of an elite athlete. In most cases the common factors are exposure to advanced techniques, positive reinforcement from both coaches and family members, and encouragement to continue. Exposure to competitive programs will also increase the likelihood of skill development due to the uplifting nature of highly competitive environments.

## **STATEMENT OF THE PROBLEM**

The problem of this study was to assess the U.S. Women's National Field Hockey Team to determine the major influences on their development as athletes and their commitment to continue competing at the international level.

## **RESEARCH GOALS**

To answer this problem the following objectives were established:

1. To determine the influence that the athlete's home environment had on their athletic development.
2. To determine the influence their coaches had on their athletic development.
3. To determine the influence that their athletic environment had on their commitment to excel at the international level.

4. To determine the influence that a supportive family environment had on their athletic development and their commitment to excel at the international level.

## **BACKGROUND AND SIGNIFICANCE**

Field hockey is a sport played worldwide and is considered the “sister sport” of soccer. In the United States, its popular among the Northeastern and East Coast states. Although there are no professional teams or leagues, it is a NCAA Division I and III sport. Top high school players are encouraged and recruited by college coaches to continue their careers by attending an institution that has a collegiate program. There are approximately sixty-eight institutions that participate in the NCAA Division I Field Hockey Program. A college career consists of four playing seasons which can be completed in a five year period. The season starts in mid-August and can continue to the weekend prior to Thanksgiving if the team qualifies for the final four tournament of the NCAA championship. Thirty games are played per season and the practice commitment is four hours a day, six days a week.

It is difficult for field hockey players in the United States to emulate top players because there are no professional athletes in their respective sport. Normally these professional players provide the inspiration to younger players. For field hockey players in the United States, the World Cup and Olympic's represent the highest level of their sport.

During a players collegiate career, coaches have the greatest influence on a player's understanding of the game, their development as a player, and their mental attitude toward challenging situations. A study conducted at the University of Ottawa, Canada, examined the influences of coaches expectations of athletes. It investigated the relationship between immediate positive reinforcement and its affect on the athlete's self esteem, confidence and competence. Self-confidence gains were directly related to the immediate positive feedback from the coach (Sinclair and Vealey, 1989, p. 79).

One challenge that the sport of field hockey is facing is lack of support, with respect to fans and financial backing. Field hockey is not a well known sport throughout the United States. The rules of the game are complicated and confusing to a non-field hockey player. It is not a revenue sport at the collegiate level and many programs are being discontinued as a result of budgetary considerations. This makes it even harder for a player to continue at the international level in the United States. The majority of the athletes that compete on the U.S. National Team came from top ranked collegiate teams.

After one's collegiate career, most players retire, few play on club teams and only a select group decide to train for the National Team. There are eighteen members of the National squad that train and compete for a final team of sixteen players. The select athletes that train for the National team must be dedicated enough to train on their own in order to be prepared for the team practices held at random times during the months of December-July. Consequently, there are certain attributes one must have in order to compete on the U.S. National Team including self-motivation, determination, endurance and quickness. This research focused on who and what influenced the National Field Hockey team members to excel and continue at the international level.

## **LIMITATIONS**

The limitations of this study were as follows:

1. The study was limited to a computerized Forte personality profile, a written survey and one-on-one interview of each member of the 1994 U.S. National Team.
2. The study relied on the perceptions of each member of the National Team interviewed as it related to coaching experiences, background information and their recollection of events affecting their development.

3. The members of the National team ages ranged from 20-32.
4. The period of the study was the spring of 1994.

## **ASSUMPTIONS**

In this study there were several factors which were believed to be true. They were as follows:

1. The information obtained from the survey and interview were correctly given.
2. A positive athletic experience will nurture skill development.
3. Participation in a top rated field hockey program in high school and college increases the chance of skill development needed to compete on a national level.
4. Strong parental and sibling support creates a positive environment that leads to skill development.
5. People who come from athletic families have a propensity toward higher athletic achievement.

## **PROCEDURES**

The members of the 1994 U. S. National Team were used to conduct this study. The members used were the eighteen selected members from the "A" camp try-outs held at Rutgers University from December 27, 1993

through January 7, 1994. The selection process consisted of a five day try-out which included skill assessment, conditioning, speed and agility drills. There were one hundred and twenty women participating in this phase of the try-out. From this group a squad of eighteen was selected to train through the spring of 1994. The study included all eighteen of the squad members. The data was collected through:

1. A computerized Forte personality profile that determines communication style and personality traits.
2. A written survey that determines background information concerning athletic related experiences and environment.
3. A one-on-one interview that uses the first two surveys to determine in depth analysis of athletic traits.

## DEFINITION OF TERMS

The following is a list of terms and definitions that are relevant to this study.

1. **Forte™ Personality Profile-** A computerized assessment tool that determines the strength of four personality traits: Dominance or Non-dominance, Extroversion or Introversion, Patience or Impatience and Conformity or Non-conformity. Used extensively by corporate HR departments to assess communication style.
2. **NCAA-National Collegiate Athletic Association**
3. **The U.S. Women's Field Hockey National Team-** The United States Field Hockey Association fields an elite team that competes in international competitions as well as the Olympic Games in the Olympic years.
4. **A Camp-**It is a selection camp ran by the USFHA used to select the National Team.

5. **USFHA-** The United States Field Hockey Association which is the governing body for field hockey.
6. **International Caps-**This term refers to the number of official international matches that a player has participated in.

## **OVERVIEW OF CHAPTER**

This chapter identified the components involved in the study. It focused on the factors necessary for success as a national elite athlete. It focused on the factors that influenced the development of the athletes. The problem of this study was to assess the skill of the U.S. Women's National Field Hockey Team and determine whether the institution they played for, their coaches, their athletic or home environment were major influences on their development as an athlete.

Chapter II, Review of Literature, addresses the problem in relation to similar studies done by other researchers. Chapter III, Methods and Procedures, describes the instruments and techniques used to carry out this study. Chapter IV, Findings, contains the analysis and results of the study. Lastly Chapter V, Summary, Conclusions, and Recommendations, completes the study.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

The factors effecting the development of elite level athletes have been discussed in a limited number of articles. This review dealt with the past and present studies as they impacted athletes performance on several different levels. The articles focused on coaching environment, peer/athletic environment and home/family environment.

### **COACHING ENVIRONMENT**

Coaches spend a great deal of time evaluating the performance of their athletes. They also spend a great deal of time providing their athletes with feedback based on these evaluations. This principle is based on established principles of behavior modification which states that behavior is strengthened when it is rewarded and weakened when it is unrewarded. This principle is a powerful motivator if used properly, but can create negative effects if used improperly. Psychologist (Skinner, 1968) and sport psychologists (Dickinson, 1977; Gill, 1986; Rushall and Siedentop, 1972; Siedentop, 1978) strongly believe that reinforcement or feedback is a critical component of successful coaching.

Martirek (1981) modified Brophy and Good's (1974) expectation model. It is a four step model that includes: (1) Coaches develop expectations regarding the skill potential of their athletes early in the season. (2) These expectations influence the quality and quantity of coaches interactions with athletes. (3) Differences in feedback, which athletes receive, influence their self perception, motivations and opportunity to learn. (4) Over a period of time, athletes performance behaviors may conform to the coaches initial expectation. This illustrates that if the four step process is valid, then high expectations will stimulate optimal performance behavior. And also, low

coach expectations can diminish athletes performance. Research supports this theory. Rejeski (1979) found that high expectancy youth athletes received more reinforcement than low expectancy athletes.

Along these lines, additional studies regarding enhancing self-efficacy in athletes (Gold, Weiss and Weinberg, 1986; Highler and Bennet, 1979; Mahoney and Avner, 1977, Mahoney, Gabriel and Parkney, 1987) was shown that positive relationships exist between an individual's expectations and motor performance and/or that more successful athletes exhibit efficacy expectations than less successful athletes. Good performance is enhanced through good instruction, setting specific goals, emphasizing improvements in technique over outcome, liberal use of reward statements, verbally persuading athletes modeling confidence and using imagery to visualize performance success. All of these factors contribute to enhancing self efficacy in athletes. And all of these items can be reinforced through good coaching.

Several elite level coaches were interviewed, and it was found that the coaches used several of thirteen strategies to improve performance of elite level athletes. These strategies included: 1. Enhancing performance through instruction-drilling, 2. Encourage positive talk, 3. Act confident yourself, 4. Liberal use of reward statements, 5. Employ hard physical conditioning, 6. Set specific goals, 7. Verbally persuade, 8. Emphasize technique improvement, downplay outcome, 9. Imagine success, 10. Reduce anxiety by utilizing relaxation training, 11. Emphasize that anxiety is not fear but readiness, 12. Emphasize lack of effort, not lack of ability, for failure, and 13. Identify similar athletes who have achieved.

As a form of leadership, the coaching process is concerned with assisting athletes to become more proficient in the performance of their sport. Studies by Summers (1985) show that an athletes propensity for learning is enhanced when the athlete perceived themselves to be more able. The satisfaction level of athletes are also increased when athletes considered themselves to be more able. A coaches leadership role and abilities (Hersey and Blanchard, 1972) is affected by the followers (the athlete) level of maturity that constitutes the primary moderator of the leaders influence. In fact,



Summers (1985) studies suggest that the athlete's maturity will moderate a leader's influence attempts. Elite level athletes exhibit a much higher level of maturity, due to long term goal setting and other motivational factors.

It is proposed that the coach-athlete relationship is a more cooperative interaction that is characterized by the pursuit of common objectives. Both coach and athletes are interested in the attainment of superior performance. Additional studies (Deci and Ryan, 1980) believe that athletes may be more receptive toward coach's efforts at helping them perform better because this will result in experiencing more intrinsic rewards from their sport. Elite athletes view coaching input as not redundant but as fine tuning their skills and are therefore more receptive to that input.

## **PEER/ATHLETIC ENVIRONMENT**

The elite athletes' development is affected early in their athletic career. Motivation factors that affect female athletes were studied (Ryckman and Hammel, 1992) and showed that adolescent girls who had greater involvement in sports had stronger needs for positive stimulation through friendships and positive reinforcement from coaches. They had a weaker need for emotional support and attention as opposed to girls with lower levels of involvement. It was found (Belinky, Clinchy, Goldberg & Tarule, 1986; Gullian, 1982; Miller 1976) that the need to affiliate is a primary motive for participation by adolescent females in organized sports. Elite athletes were found to excel within this framework in high school and college. However, it was found that varsity college female athletes provided little emotional support for one another, perhaps reflecting the intense competition between them for a limited number of places and positions available on their teams. It was predicted that adolescent females who were high in achievement orientation would be more likely to participate in organized sports, given that their achievement propensities would encourage them to enter activities that involve striving to meet competitive challenges. It was shown (Gill, 1988) that girls with more extensive involvement in sports would probably not need or expect emotional support and encouragement from their teammates when feeling generally unhappy or depressed.

This participation in sport by high achievers is paralleled by the effort necessary to become "good". That is, grueling hours of practice, dedication and firm commitment to flawless performance are the factors that some high achievers will employ to rise to the top of their sport. Hence, the competitive athlete relies on their physical prowess to demonstrate their self-worth and value as an individual. Higher levels of self-esteem and self-confidence tend to be predominate motivating factors.

## **HOME/FAMILY ENVIRONMENT**

Human social behavior is a mixture of competitive and cooperative activities that varies by environmental setting. There is a wide divergence of emphasis placed on cooperative, competitive and individualistic behaviors and attitudes. Because competitiveness is a social behavior, it may be learned in much the same way as other social behaviors. Since the primary social teacher is the family or home unit, it follows (Benjamin S. Bloom, 1985) an examination of the relationship between home environment and individual levels of competitiveness of highly accomplished individuals should be linked. Earlier research suggests (Bloom, 1965; Sloan, 1985) that home environment plays an important role in the general development of high levels of talent by providing a supportive value system and appropriate opportunities.

In an earlier study (Monsaas, 1985) of highly accomplished tennis players, it was discovered that a major source of motivation for these individuals was their desire to win. Additionally, home environment seemed to play a significant role in the development of their tennis talent. It was hypothesized that if competitiveness is modeled, reinforced and valued at home, then individuals in these environments will be more competitive. The study found that the relationship between the competitiveness of the home environment and the individual competitiveness was quite high. In fact, it accounted for forty-six percent of the variance in individual competitiveness. Individuals tend to view their personal motivation and other aspects of their worlds in terms of competitiveness.

Kohn (1986) stated that there has been very little work done on the role of competitiveness in the development of highly accomplished individuals. Although it has not been established that competitiveness is essential for making it to the top in different talent pools, research has pointed us in that direction. In fact, the study suggests that in some talent fields, such as the psychomotor, the intrinsic nature of the goal structure in these fields may be such that individual competitiveness is required to reach the top.

## **SUMMARY**

The review of literature presented insight into the research that has been done regarding the influences that affect the development of highly achieved athletes. In this field of knowledge, there has been very little work on this particular subject. A majority of this study will draw on the past research and the questionnaires answered by the elite level female athletes on the U.S. National Team.

Chapter III will outline the Methods and Procedures used by the researcher. Chapter IV will review the findings that were gathered. Finally, Chapter V will present the Summary, Conclusions, and Recommendations of the research data.

## **CHAPTER III**

### **METHODS AND PROCEDURES**

This chapter describes the methods and procedures that were used in this study. The following sections were included: population, instrument design, procedures, methods of data collection, statistical analysis and summary. The research study was descriptive in nature.

#### **POPULATION**

The population of this study consists of eighteen members of the 1994 U.S. Women's National Field Hockey Squad. The members of the squad ranged in age from 20 to 32. Appendix A contains a listing of these 1994 National Team Members.

#### **INSTRUMENT DESIGN**

This study was conducted using a thirty question open-ended and closed-ended response questionnaire (see Appendix B), a computerized Forte personality profile which was used to determine the communication style of each of the team members (see Appendix C) and a one-on-one interview with each national team member. These instruments were chosen due to the nature of this research study.

The questionnaire was developed to determine the major influences that affected the athlete's athletic development. The questions chosen for the study were designed to determine if there was a commonality among the National Team Members concerning major influences in their athletic development.

The computerized Forte Personality Profile® was produced from

responses to Survey 1: "How You Feel You Really Are." The individual taking the Survey reacts to each word, making a numerical judgement on a scale of one to five (i.e., one meaning rarely and five meaning usually). It takes less than five minutes to complete the Forte Survey. The numbers are entered into the computer holding the Forte software. An analytical printout is produced. Trait intensities, determined by the analysis, are then recorded. The survey also produced a report on the logic style and stamina levels of the individual (see Appendix D for monograph of the Forte System).

The one-on-one interviews were used to get a clear understanding of the athlete's values, attitudes and beliefs, and to clarify any information contained in the survey that might have been ambiguous. The one-on-one survey was conducted using questions from the survey as a guide to lead to more in-depth information. The Forte Profile gave an insight into the communication style of each person interviewed and helped to determine how to best communicate with that person. This profile helped in several instances where the responses to the questions were brief and required additional probing to bring out further information.

## **PROCEDURES**

This study was conducted at the Olympic Training Center, February 4-11th, 1994, in Arnham, The Netherlands. The athletes were given the questionnaire and asked to answer the questions, in-depth, to the best of their ability. They had over one week to fill out the questionnaire on their personal time, in private. They were instructed not to be rushed or fatigued at the time of answering the questionnaire. Also, they were instructed not to discuss any questions with any other athlete.

On February 25th, the team was then asked to fill out the computerized Forte personality profile. The location remained the same. The Forte personality profiles were then computed and returned. The results of the Profiles were used to aid in the interview process.

The athletes were then interviewed one-on-one. The interviews took place in a comfortable room, during time off, away from the playing field.

## **METHODS OF DATA COLLECTION**

The data was collected and used to compute percentages. A percentage was issued to each question, based on the total number of similar responses. Those percentages were used to determine if there was pattern among the National Team members.

Different personalities were given percentages based on the dominant traits assigned by the Forte Personality Profile. Different stamina levels were given percentages and compared. Different logic styles were given percentages based on the Forte Personality Profile printout. Those percentages were used to determine if there were patterns among the National Team members.

## **STATISTICAL ANALYSIS**

The data from the questionnaire and Forte Personality Profiles were collected and analyzed. Each question was given a percentage based on the answers to the questions. Results or percentages from each question were used to create the charts included in chapter IV. Conclusions were drawn from the collected data summarized in the chart data.

## **SUMMARY**

Chapter III outlined the methods and procedures used to conduct this research study. They included population, instrument design, procedures, method of data collection, statistical analysis and summary. The findings and results of the study were presented in Chapter IV. The summary, conclusions, and recommendations were presented in Chapter V.

## **CHAPTER IV**

### **FINDINGS**

The problem of this study was to assess the U.S. Women's National Field Hockey Team to determine the major influences on their development as athletes and their commitment to continue competing at the international level. This chapter contains the results of the data collected from the instruments used in this study. The data was used to determine the major influences on the athlete's development to the elite level. These influences include: 1. The athlete's home environment, 2. The influence their coach's had on their athletic development, 3. The influence an athlete's athletic environment had on their development. 4. The influence a supportive family had on their development.

The survey contained questions that addressed all four areas that were being studied. The questions were converted into tabular data then into charts with appropriate percentages.

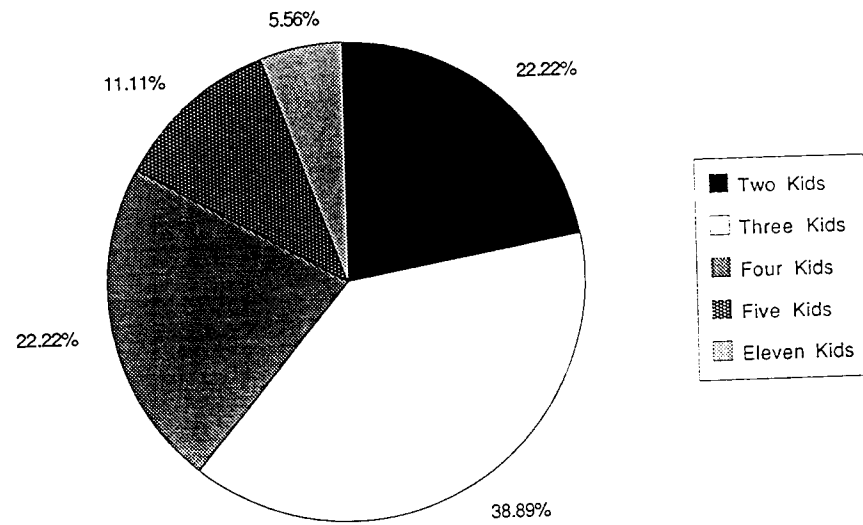
### **HOME ENVIRONMENT**

Questions 1, 2, 3, 5, 6 and 18 of the survey related to the athletes home environment. Findings from each question will be discussed individually.

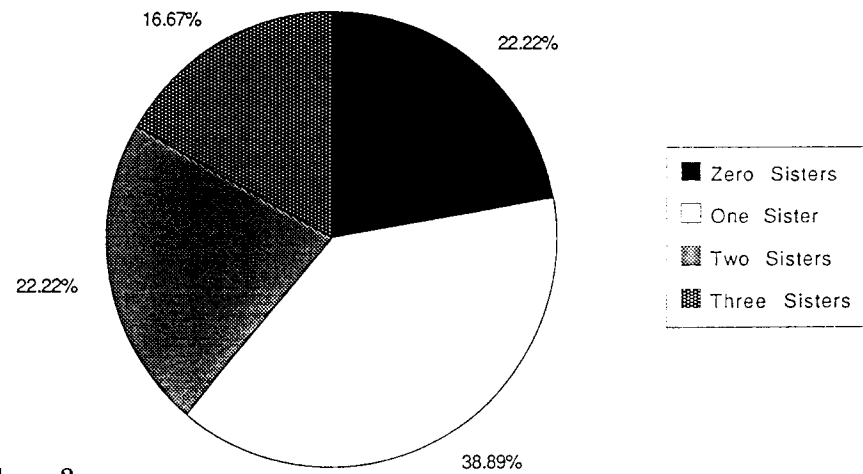
Question 1 was concerned with the number of children in the athlete's family. Of significance was that seventy-seven percent of the respondents were from a family of three or more children. There were also no respondents that were an only child (Figure 1).

Question 2 was concerned with the number of sisters while question 3 was concerned with the number of brothers that players had. From a statistical basis there were no significant patterns since the distribution was fairly uniform (Figure 2 & 3).

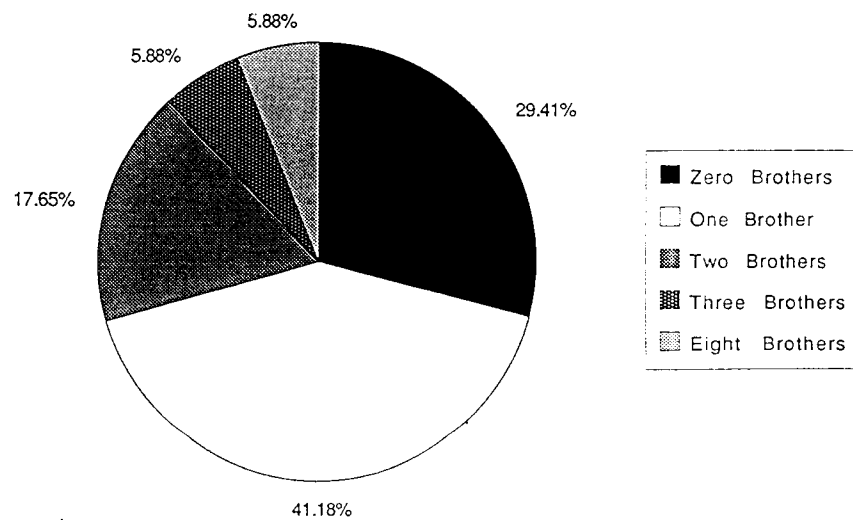
**Figure 1**  
How Many Children in Your Family?



**Figure 2**  
Number of Sisters?



**Figure 3**  
Number of Brothers?





Question 5 illustrated the number of children living in the neighborhood. Of significance was the fact that seventy-seven percent of the respondents indicated that they lived in a neighborhood with many children. Question 6 illustrated that the majority of the children in the neighborhood were boys as indicated by seventy-two percent of the respondents (Figure 4 &5).

Question 18 was concerned with the important values that were instilled by the family. Of significance were: The value of being fair or good was indicated by seventy-two percent of the participants; competitiveness was indicated by fifty percent of the participants; discipline was indicated by thirty-eight percent; and the value of being supportive was cited by twenty-seven percent of the participants.

## **COACHES INFLUENCE**

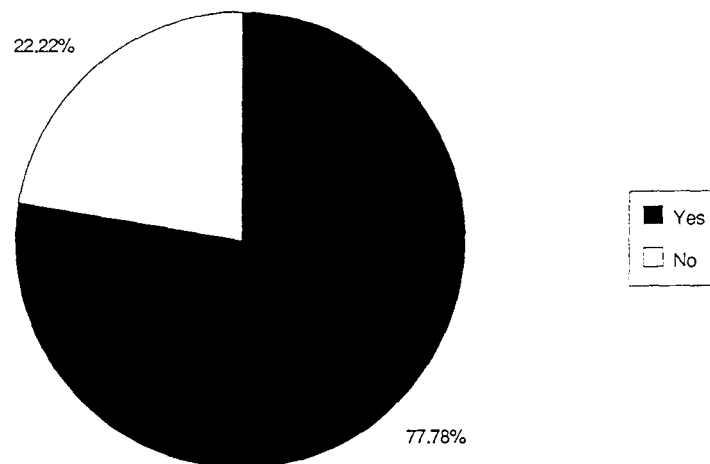
Questions 20, 22, 23, 24 and 28 of the survey related to the influence that coaches had on field hockey members athletic development. Findings from each question will be discussed individually.

Question 20 was concerned with the institution and coach the participants played for. There was no particular school or coach that was statistically significant, however, all of the colleges the athletes attended were nationally ranked in the top fifteen of all universities (Figure 6).

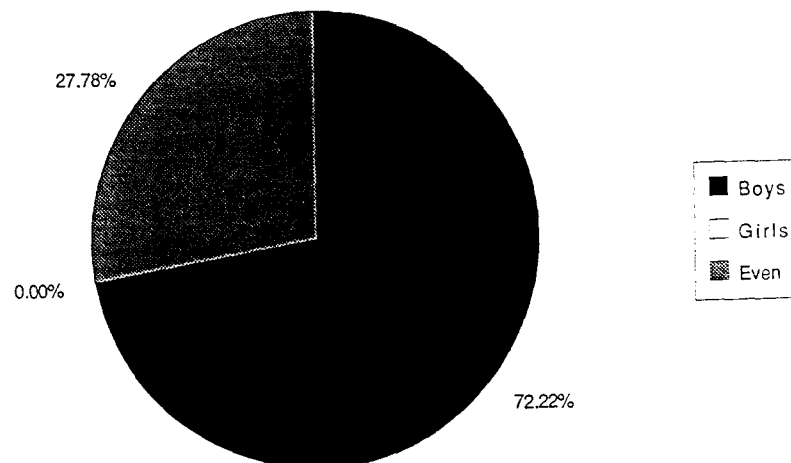
Question 22 was concerned with the ranking that their colleges held while the athletes played. It was significant that eighty-three percent of the participants were attending a school that was ranked in the top three nationally (Figure 7).

Question 23 found that of significance was the fact that seventy-seven percent of the National Team members had participated in the NCAA Final Four Tournament. This is shown in Figure 8.

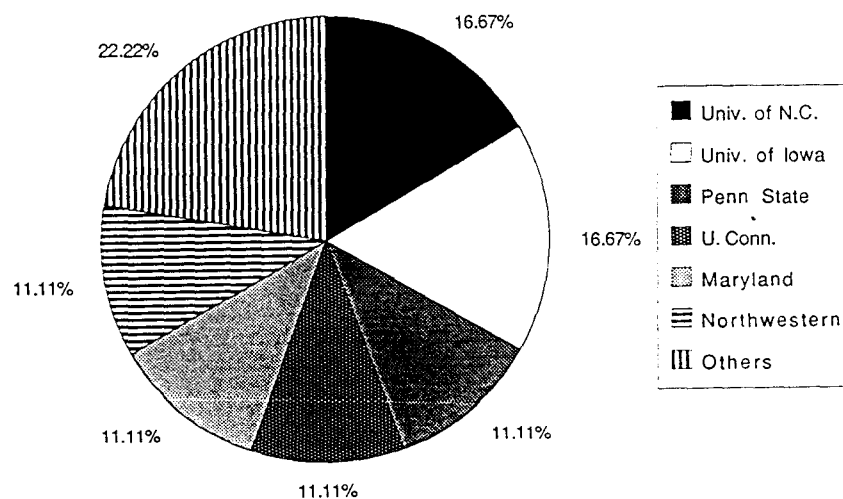
**Figure 4**  
Did you live in neighborhood with many children?



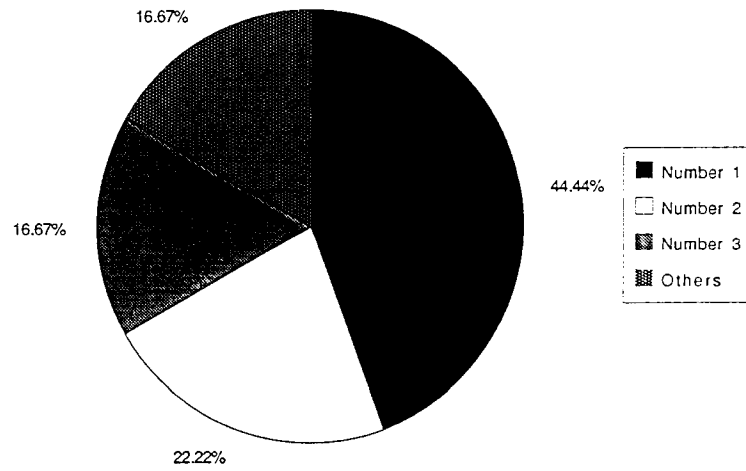
**Figure 5**  
Majority of children are boys.



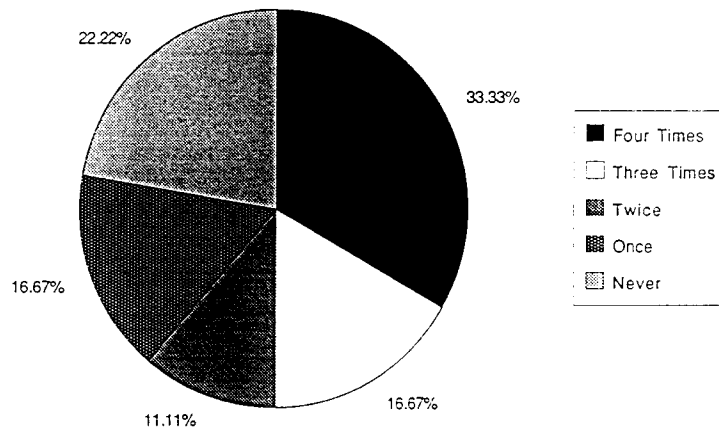
**Figure 6**  
College National Team member played for?



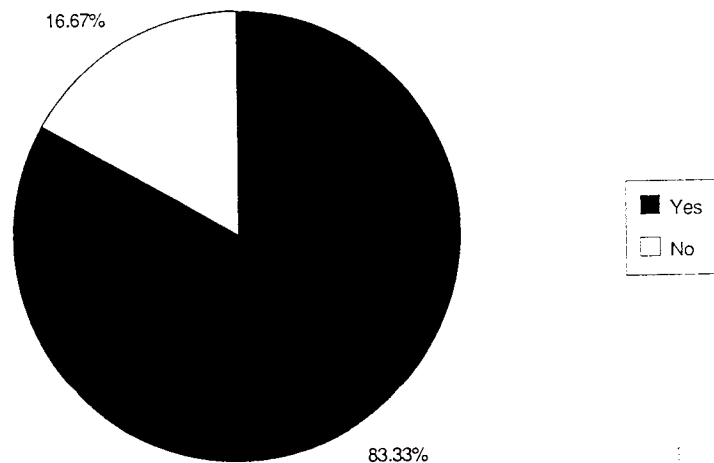
**Figure 7**  
Highest ranking held by college you played for?



**Figure 8**  
Number of times you competed in the final four?



**Figure 9**  
Was your head coach a major influence?



Question 24 was concerned with the opinion of the participant on their coaches influence on their development as an athlete. Of significance was the fact that eighty-three percent felt the coach had made a difference (Figure 9).

Question 28 asked if the athlete felt they were successful and were properly rewarded. Of significance was the fact that one-hundred percent felt they were.

## **ATHLETIC ENVIRONMENT**

Question 14, 15, 16, 17, 19, 26 and 30 of the survey related to the influence an athlete's athletic environment had on their development. Findings from each question will be discussed individually.

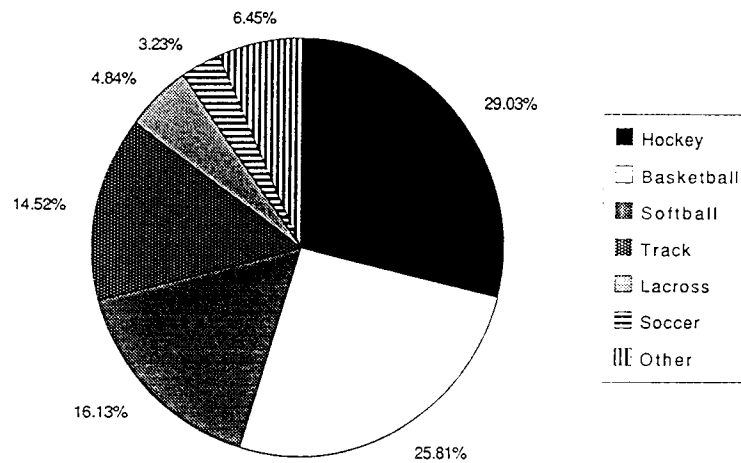
Question 14 was concerned with the sports that the participants played in high school. Of significance was the fact that one-hundred percent of the participants participated in three or more sports in high school. Besides hockey, almost all of the sports were team sports as opposed to individual sport like tennis (Figure 10).

Question 15 was concerned with the sports played in college and one-hundred percent of the participants played hockey, while only twenty-two percent played the second sport of lacrosse (Figure 11).

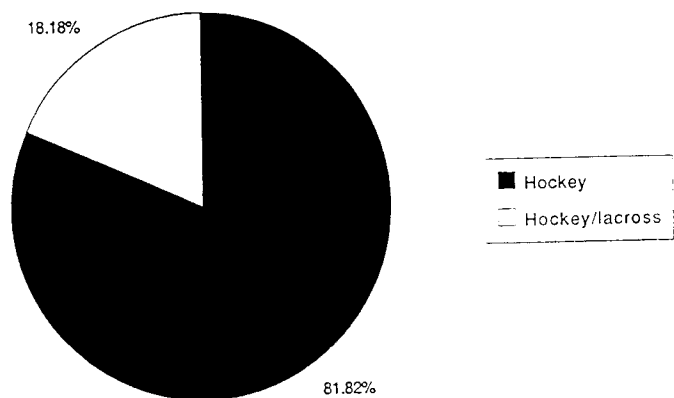
Question 16 was concerned with the sports the athlete grew up with as a child. There was an assortment of competitive team sports and there was no statistically significant difference in the distribution with the exception that ninety-two percent were team sports.

Question 17 was concerned with the participants first memory of competition. Ninety-two percent responded that the competition involved teams and were very competitive in nature (Figure 12).

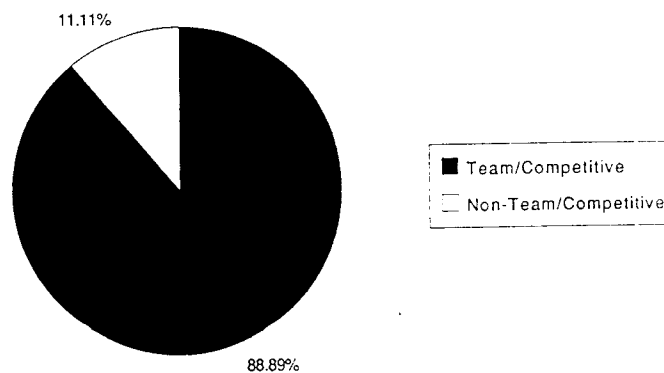
**Figure 10**  
All the sports you played in high school.



**Figure 11**  
The number of sports you played in college?

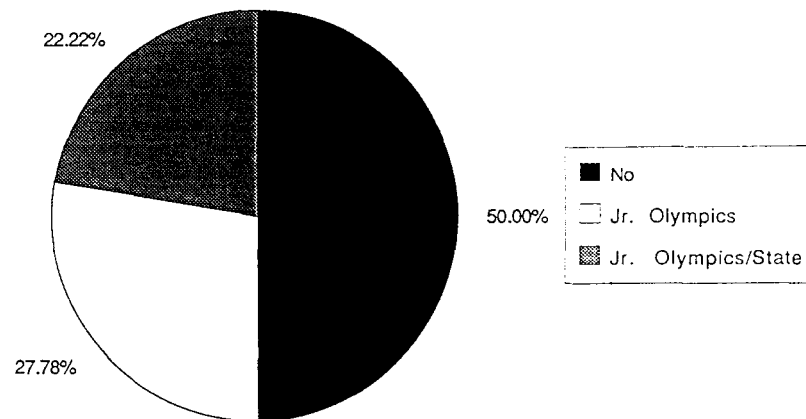


**Figure 12**  
The type of sports you grew up with-team/non-team?



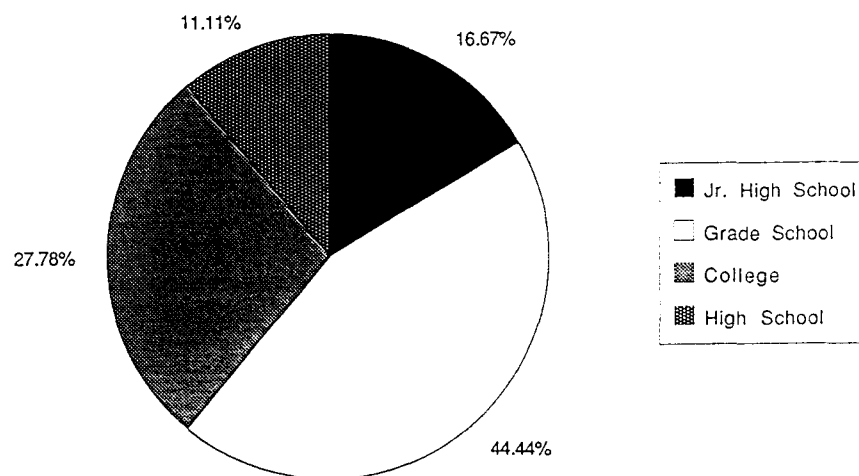
**Figure 13**

Did you compete on a Junior Olympic team or state team?



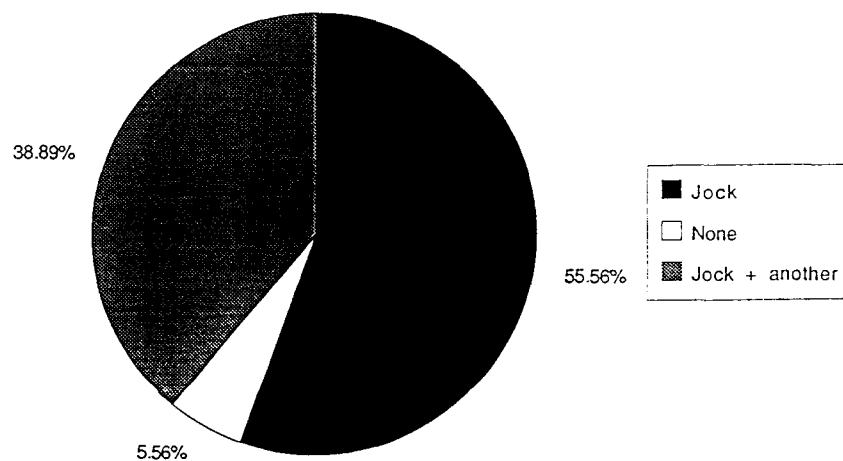
**Figure 14**

When did you first dream of being on an Olympic Team?



**Figure 15**

What peer group were you in high school?



Question 19 was concerned with playing on an elite or highly competitive team like a state team or Junior Olympic competitions. Fifty percent of the participants competed at the state or Junior Olympic level (Figure 13).

Question 30 asked participants when they first dreamed of being on an Olympic team. Seventy-two percent thought about it before college, while forty-four percent indicating the desire to be an Olympian in grade school (Figure 14).

Question 26 was concerned with the peer group the participants identified themselves with in high school. Ninety-four percent of the respondents indicated they belonged to the "jock" peer group in high school (Figure 15).

## **FAMILY SUPPORT**

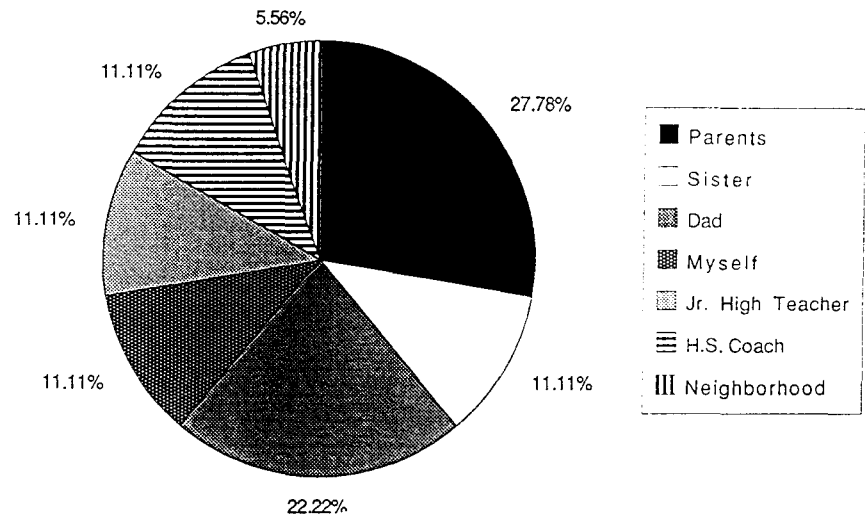
Question 7, 8, 9 10, 11 12 and 13 of the survey related to the influence a supportive family had on their development. Findings from each question will be discussed individually.

Question 7 asked how they became involved in hockey and of significance was the fact that sixty-one percent were influenced by the family (Figure 16). Question 8 asked how they became involved in sports and of significance was the fact that seventy-two percent were influenced by a family member (Figure 17).

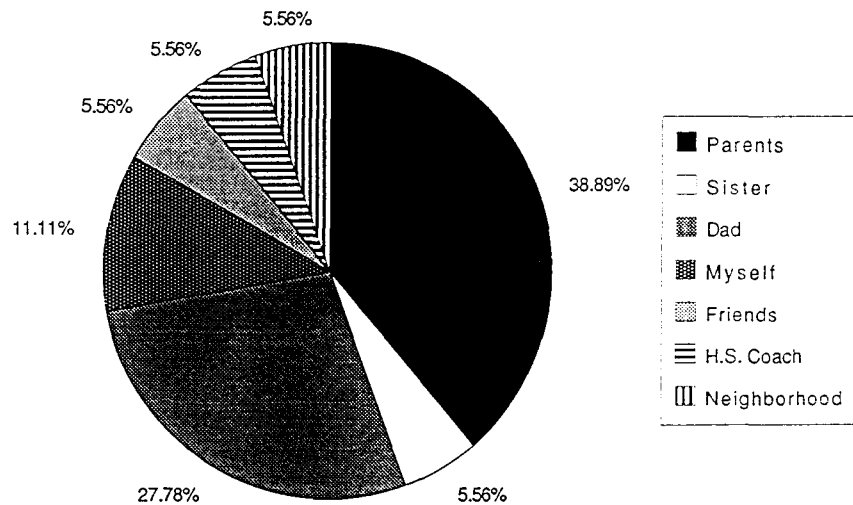
Question 9 was concerned with the support the athlete received from family at their high school games. Of significance was that eighty-three percent indicated that their parents watched their games (Figure 18).

Question 10 was concerned with whether their parents attended their college games. Of significance was the fact that one-hundred percent of the participants parents attended some games and eighty-three percent attended almost all of their games (Figure 19).

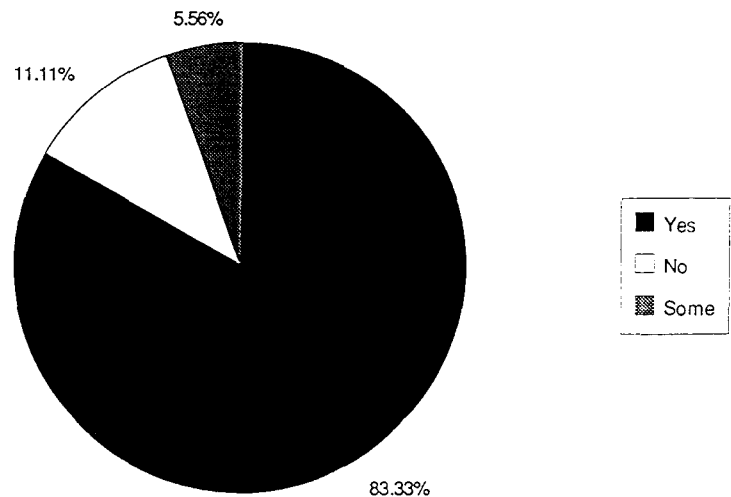
**Figure 16**  
How did you get involved in hockey?



**Figure 17**  
Who got you involved in sports?

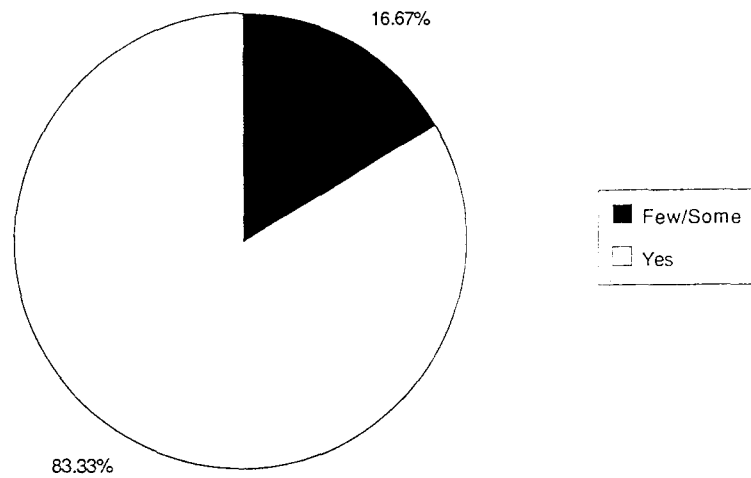


**Figure 18**  
Did your parents watch your high school games?

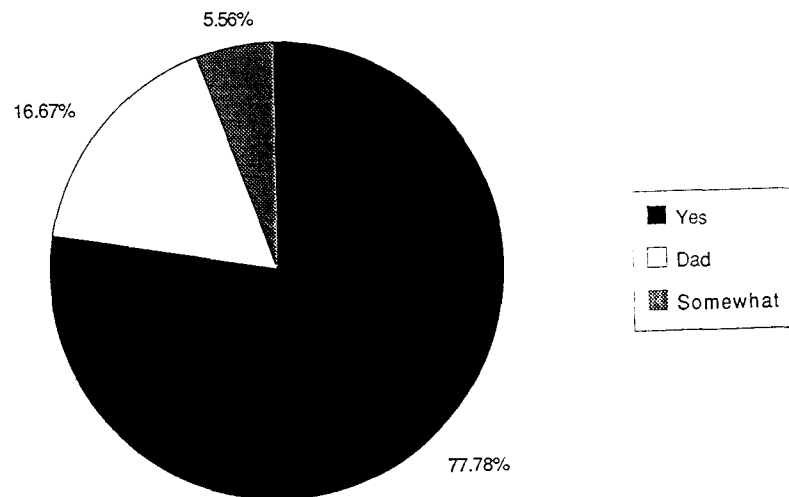




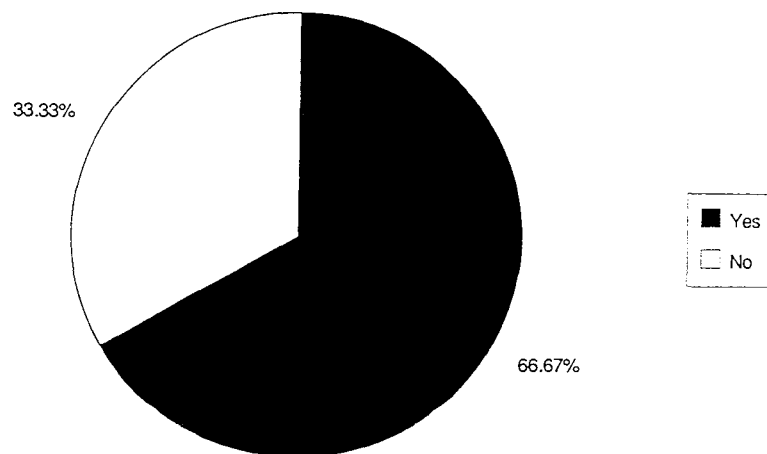
**Figure 19**  
Did your parents watch your college games?



**Figure 20**  
Were your parents athletic?



**Figure 21**  
Did a member of your family compete at an international level?



Question 11 asked if their parents were athletic. Seventy-seven percent were, while ninety-four percent said that at least one parent was athletic (Figure 20).

Question 12 asked if a family member competed at the collegiate level. Sixty-six percent responded favorably (Figure 21). Question 13 asked if any family member had competed at an international level. Twenty-two percent responded yes (Figure 22).

## **FORTE PROFILE**

The Forte Profile, in addition to being used to determine communication style for the interview process, produced four composite results. These included: 1. Primary Trait composite, 2. Secondary Trait composite, 3. Logic Style composite, and 4. Stamina Level composite.

**1. Primary Trait.** This is the trait that has the most influence on the person's communication style and constitutes fifty to seventy percent of the individuals self-motivation and preferences. Among the National Team members, twenty-seven percent were Dominant/Controlling, twenty-seven percent were Extroverts/Outgoing, twenty-two percent were Conformists/Systematic and twenty-two percent were Patient/Paced. This indicated that the personality styles of the team was almost evenly divided and no significant conclusion could be drawn from this data.

**2. Secondary Trait.** The secondary trait and its location in relation to the primary trait has a direct effect on the communication style of the participants. Among the National Team members, eleven percent were Non-Dominant/Cooperative, thirty-nine percent were Introverts/Reserved, twenty-seven percent were Non-Conformists/Independent, and twenty-two percent were Impatient/Urgent. This is a fairly typical distribution. It should be noted that there is no right or wrong combinations of the traits. Within any group of individuals a mix of the four types of personality can be found.

**3. Logic Style.** Logic or decision making style addresses the different approaches to making decisions. Fact is more analytical and feelings is more intuitive. Among the National Team members, sixty-one percent of the decision making style was feeling, twenty-two percent of the decision making style was fact/feelings, and seventeen percent of the decision making style was fact. Of significance was the fact that on the international level, skill levels among the competing teams were almost equal. The team that wins, according to top level coaches, was the team that can adjust or “figure out a way to win”. The decision making style of feeling or fact/feeling supports this need to be creative on the field. The results showed that eight-three percent of the team have this trait.

**4. Stamina Level.** Stamina reflects the degree of endurance, awareness, and responsiveness present in a person. This measures the internal battery of a person. There are five levels of stamina with above average, high, and very high being the top levels. Among the National Team members, twenty-seven percent have an above average stamina level, fifty percent have a high stamina level, and thirty-three percent have a very high stamina level. This reinforces the stamina and mental requirements to play at a national level. All of the team members exhibit a stamina in the upper level of normal respondents.

## SUMMARY

Chapter IV provided the findings of the completed surveys that were administered to gather data. The data was recorded and the percentages for each question were calculated. The results of the chart data was used to draw the conclusions of this study. Chapter V will provide the Summary, Conclusions, and Recommendations of the study.

## **CHAPTER V**

### **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

#### **SUMMARY**

The problem of this study was to assess the 1994 U.S. Women's National Field Hockey Team to determine the major influences on their development as an athlete and their commitment to continue at the international level. The research goals were: 1. To determine the influence that the athlete's home environment had on their athletic development, 2. To determine the influence their coaches had on their athletic development, 3. To determine the influence that their athletic environment had on their commitment to excel at the international level, and 4. To determine the influence that a supportive family environment had on their athletic development and their commitment to excel at the international level.

The study was conducted using eighteen U.S. Women's National Team Members. There were two surveys used to collect data for the study. The first survey was a questionnaire consisting of thirty questions used to determine the influences that contributed to their athletic success. The second survey was a Forte Interpersonal Communication Profile used to determine communication style, stamina level, and decision making style. These surveys were followed by a one-on-one interview used to clarify any ambiguous information and to determine team members long term commitment to the National Team program.

The questionnaires addressed the supportive influences that contributed to the particular athletes development in four area. These influences include: 1. The athletes home environment, 2. The influence their coaches had on their athletic development, 3. The influence a athlete's athletic environment had on their development, and 4. The influence a supportive family had on their development.

The relevant questions in the questionnaire were converted into per-

centages and the results were used to determine if there was a relationship between each of the four influences and the National Team members. The same method was used to determine if there was a commonality among team members and their communication, decision making style, and stamina levels.

## **CONCLUSIONS**

The finding of this study showed that there was a significant similarity of influences among the National Team members. According to the data presented in Chapter IV, which was divided into four major influences, the following conclusions can be drawn.

### **CONCLUSIONS REGARDING ATHLETES HOME ENVIRONMENT**

Questions were designed to determine what type of environment the athletes grew up in. Seventy-seven percent of the National Team members were from families of three or more children. This environment lead to a more competitive upbringing with the traditional sibling rivalry leading to an atmosphere of competition. In addition to this, seventy-seven percent of the National Team members grew up in a neighborhood with many children. Seventy-two percent stated that those children were mainly boys. Of the participants interviewed, seventy-two percent said their families valued the attribute of being fair or a good person and fifty percent named competitiveness as an additional value. These factors combined to indicate that a majority of the National Team members grew up in a highly competitive atmosphere. The neighborhood with mostly boys was mentioned as a contributing factor in becoming a very competitive athlete. Early on they had to compete with boys for a position on the various neighborhood teams. During the one-on-one interviews, the majority of those interview stated that it was this competitive atmosphere that instilled a desire to succeed in later sporting endeavors.

## **CONCLUSIONS REGARDING THE INFLUENCE OF COACHES**

Coaches had a significant influence of the athletes of the National Team. The following information supports this conclusion. All of the National Team members played for a college ranked in the top fifteen and eighty-three percent of those attended a school which was ranked in the top three nationally at one time. Seventy-seven percent of the National Team members had participated in the NCAA Final Four tournament. The NCAA tournament is the pinnacle of success at the collegiate level. Eighty-three percent of the participants also stated that their coaches had made a difference in their level of play and instilled personal work ethics. During the one-on-one interviews, the majority of participants believed that they became the players they are today because of the support and guidance their collegiate coaches had provided. It is obvious that the National Team members were successful because they participated in successful programs coached by top level coaches. In most competitive environments, the tougher the competition, the better the athlete will perform.

## **CONCLUSIONS REGARDING THE INFLUENCE OF ATHLETIC ENVIRONMENT**

Athletic environment has a significant influence on the development of national athletes as illustrated by the following information. Of interest was the nature of sports the National Team members played as children prior to grade school. Ninety-two percent of those sports were various neighborhood games which were very competitive but all of which were team related. All of the National Team members competed in three or more sport in high school and the majority were team sports as opposed to individual sports. More than fifty percent of the participants competed on Junior Olympic or state level teams prior to their college careers. Seventy-two percent of the participants stated that they dreamed of being on an Olympic team prior to college. All of the National Team members played hockey in college with just twenty-two percent participating in a second

sport. This would show a commitment to the sport of hockey. This commitment was due to the demanding nature of a top level college hockey program. During the one-on-one interviews the athletes felt that the athletic environment they were exposed to contributed to their success as they progressed to the next level of their sport. Additionally, each respondent indicated that their athletic environment was a contributing factor to their success over time.

### **CONCLUSIONS REGARDING THE INFLUENCE OF A SUPPORTIVE FAMILY**

A supportive family was common among the national level athletes as indicated by the following conclusions. Seventy-two percent of the participants were influenced by a family member to participate in sports and sixty-one percent were influenced by a family member to participate in hockey. Eighty-three percent of the participants indicated that their parents watched their games and ninety-four percent attended some of their college games, with seventy-seven percent attending all of their games. In the one-on-one interviews it was noted that many of the national team members parents were at least four hours away from the college and it was a big commitment for their parents to drive the distance to see their games. All of those interviewed indicated an appreciation for their parents interest and continued support in their sport. At least ninety-four percent of those interviewed stated that they had one or more parent that was athletic and sixty-six percent had family members that had competed at the collegiate level. The one-on-one interviews indicated that their parents encouraged them to participate in sports, that their parents were athletic, and that they were very supportive and had never complained about demanding practice schedules in high school.

### **CONCLUSIONS REGARDING THE FORTE COMMUNICATION SURVEY**

The Forte Profile indicated that among the US National Team members that most of the members had upper levels of stamina and used a

logic style that was dominant in feelings or fact/feelings. This supports the nature of the physical and mental commitment needed to excel on the international level. It also supports the coaches profile of a person who is innovative and can be flexible in differing conditions.

Finally, during the one-on-one interviews every team member indicated that if they remained healthy and able to compete, they planned on training with the National Team until after the 1996 Olympics in Atlanta or the 1998 World Cup in Holland. This commitment entails training six to eight months per year, four to six hours per day. It also means trading financial gains that friends are making in the corporate world for achievements that very few people can say they have accomplished.

To put this commitment into perspective, since the inception of field hockey on an international level, the United States has only won three medals. The bronze medal in the 1984 Olympics and the Bronze medal in the 1982 and 1994 World Cup. Sixteen of the eighteen woman who participated in this study were on the 1994 World Cup team and plan to continue their success at the 1996 Olympics and beyond. Since there are no professional leagues or teams in the sport of field hockey, it should be obvious that participants train and compete for the love of the game rather than for financial gains.

## **RECOMMENDATIONS**

Often we form opinions based on ideas or conclusions of others and our personal feelings about the subject we are involved with. We can only confirm our ideas by submitting them to further investigation.

Based on the research findings and conclusions, the researcher suggests the following recommendations:

1. That additional research is needed to determine the validity of the study's conclusions. It is recommended that similar studies be conducted among other women's national teams in different sport disciplines to validate the conclusions reached here.



2. That additional research be conducted with a control group of non-athletes to see if similar influences were present in their early development but did not contribute to their development as an elite athlete.
3. That research be conducted with new national team members as they join the team to see if the same influences were present as were with the original eighteen participants of this study.

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## **APPENDICES**

**Appendix A**  
**National Team Individual Statistics**

## **Appendix A**

### **National Team individual statistics**

#### **Leslie Lyness-Midfield**

Date of Birth: 8/7/68  
Hometown: Paoli, PA  
Residence: Durham, NC  
High School: The Baldwin School, Bryn Mawr, PA  
College: University of North Carolina, Chapel Hill , NC  
Major Tournaments: World Cup 1990  
Pan American Games 1991  
Olympic Qualifying Tournament 1991  
Intercontinental Cup 1993  
International Caps: 54

#### **Laurel Martin-Forward**

Date of Birth: 6/8/69  
Hometown: Hummelstown, PA  
Residence: Virginia Beach, VA  
High School: Lower Dauphin High School, Hummelstown, PA  
College: University of North Carolina, Chapel Hill, NC  
Major Tournaments: World Cup 1990  
Pan American Games 1991  
Olympic Qualifying Tournament 1991  
Intercontinental Cup 1993  
International Caps: 49

#### **Amy Cox-Back**

Date of Birth: 7/18/70  
Hometown: Houston, TX  
Residence: Chapel Hill, NC  
High School: Sam Austin High School, Dallas, TX  
College: University of North Carolina, Chapel Hill , NC  
Major Tournaments: Intercontinental Cup 1993  
International Caps: 12

#### **Marcia Pankratz-Forward**

Date of Birth: 10/1/64  
Hometown: Southboro, MA  
Residence: San Diego, CA  
High School: Wakefield High School, Wakefield, MA  
College: University of Iowa, Iowa City, Iowa

Major Tournaments: World Cup 1986  
Pan American Games 1987

**Marcia Pankratz-Forward (continued)**

Olympic Games, 1988  
International Caps: 74

**Eleanor Stone-Forward**

Date of Birth: 11/19/70  
Hometown: Cheshire, CT  
Residence: Cheshire, CT  
High School: Cheshire High School, Cheshire, CT  
College: Penn State University, State College, PA  
Major Tournaments: Intercontinental Cup 1993  
International Caps: 21

**Kristen Kelly-Back**

Date of Birth: 9/16/73  
Hometown: Medford, NJ  
Residence: Medford, NJ  
High School: Shawnee High School, Medford, NJ  
College: University of Connecticut, Storrs, CT  
Major Tournaments: Intercontinental Cup 1993  
International Caps: 7

**Kris Fillat-Forward**

Date of Birth: 11/7/70  
Hometown: San Diego, CA  
Residence: Norfolk, VA  
High School: Serra High School, San Diego, CA  
College: University of Iowa, Iowa City, Iowa  
Major Tournaments: World Cup 1990  
Pan American Games 1991  
Olympic Qualifying Tournament 1991  
Intercontinental Cup 1993  
International Caps: 41

**Katie Kaufman-Back**

Date of Birth: 9/23/74  
Hometown: Scranton, PA  
Residence: College Park, MD  
High School: Dunmore High School, Dunmore, PA  
41.



College: University of Maryland, College Park, MD  
Major Tournaments: 0  
International Caps: 2

**Tracey Fuchs-Midfield**

Date of Birth: 11/3/66  
Hometown: Centereach, NY  
Residence: Mansfield Center, CT  
High School: Centereach High School, Centereach, NY  
College: University of Connecticut, Storrs, CT.  
Major Tournaments: Pan American Games 1987  
Olympic Games, 1988  
Intercontinental Cup 1989  
World Cup 1990  
Pan American Games 1991  
Olympic Qualifying Tournament 1991  
Intercontinental Cup 1993  
International Caps: 91

**Antoinette Lucas-Back**

Date of Birth: 10/27/68  
Hometown: Crozier, VA  
Residence: Willington, CT  
High School: The Collegiate Schools, Richmond, VA  
College: Northwestern University, Evanston, IL  
Major Tournaments: World Cup 1990  
Pan American Games 1991  
Olympic Qualifying Tournament 1991  
Intercontinental Cup 1993  
International Caps: 57

**Pam Neiss-Back**

Date of Birth: 11/10/69  
Hometown: Lancaster, PA  
Residence: Norfolk, VA  
High School: Hempfield High School, Landisville, PA  
College: Old Dominion University, Norfolk, VA  
Major Tournaments: World Cup 1990  
Pan American Games 1991  
Intercontinental Cup 1993  
International Caps: 32

**Andrea Wieland-Goalkeeper**

Date of Birth: 7/25/69  
Hometown: Atlanta, GA  
Residence: College Park, MD

**Andrea Wieland-Goalkeeper (continued)**

High School: Westtown High School, Westtown, PA  
College: University of Iowa, Iowa City, IA  
Major Tournaments: Olympic Qualifying Tournament, 1991  
International Caps: 7

**Patricia Shea-Goalkeeper**

Date of Birth: 9/15/62  
Hometown: Belmont, MA  
Residence: Coralville, Iowa  
High School: Belmont High School, Belmont, MA  
College: University of Massachusetts, Amherst, MA  
Major Tournaments: World Cup 1986  
Pan American Games 1987  
Olympic Games, 1988  
International Caps: 48

**Barbara Morois-Captain-Defense**

Date of Birth: 3/1/63  
Hometown: Auburn, MA  
Residence: Dover, NH  
High School: Auburn High School, Auburn, MA  
College: University of New Hampshire, Durham, NH  
Major Tournaments: Pan American Games 1987  
Olympic Games, 1988  
Intercontinental Cup 1989  
World Cup 1990  
Pan American Games 1991  
Olympic Qualifying Tournament 1991  
Intercontinental Cup 1993  
International Caps: 112

**Tracy Tupin-Back**

Date of Birth: 6/16/72  
Hometown: Newport, NH  
Residence: Newport, NH  
High School: Newport High School, Newport, NH  
College: University of New Hampshire, Durham, NH

Major Tournaments: 0  
International Caps: 2

**Amy Schubert-Midfield**

Date of Birth: 5/1/72  
Hometown: Quakertown, PA  
Residence: Quakertown, PA  
High School: Quakertown High School, Quakertown, PA  
College: University of Maryland, College Park, MD  
Major Tournaments:  
International Caps: 8

**Kim Metcaf-Goalie**

Date of Birth: 2/13/69  
Hometown: Yardley, PA  
Residence: West Chester, PA  
High School: West Chester High School, West Chester, PA  
College: Northwestern University, Evanston, IL  
Major Tournaments: Intercontinental Cup 1993  
International Caps: 6

**Becca Maine-Back**

Date of Birth: 5/1/71  
Hometown: Elmyra, NY  
Residence: State College, PA  
High School: Fenmore Cooper High School, Elmyra, NY  
College: Penn State University, State College, PA  
Major Tournaments: 0  
International Caps: 1

## **Appendix B**

### **Questionnaire**

## **Appendix B**

**THIS QUESTIONNAIRE WILL BE USED TO FIND THE MAJOR  
INFLUENCES ON YOUR DEVELOPMENT AS AN ATHLETE AND  
COMMITMENT TO CONTINUE AT THE INTERNATIONAL LEVEL.**

NAME

AGE

1. HOW MANY CHILDREN DO YOU HAVE IN YOUR FAMILY?
2. HOW MANY SISTERS DO YOU HAVE?
3. HOW MANY BROTHERS DO YOU HAVE?
4. RANK IN ORDER YOUR SIBLINGS FROM OLDEST TO YOUNGEST.

1.	5.
2.	6.
3.	7.
4.	8.
5. DID YOU LIVE IN A NEIGHBORHOOD WITH MANY CHILDREN?
6. WERE A MAJORITY OF THESE CHILDREN BOYS OR GIRLS?
7. WHO, IF ANYONE, GOT YOU INVOLVED IN HOCKEY?
8. WHO GOT YOU INVOLVED IN SPORTS?

9. DID/DO YOUR PARENTS WATCH YOUR HIGH SCHOOL GAMES?
10. DID/DO YOUR PARENTS WATCH YOUR COLLEGE GAMES?
11. ARE YOUR PARENTS ATHLETIC?
12. HAS ANY MEMBER OF YOUR FAMILY EVER COMPETED AT THE COLLEGIATE LEVEL?
13. HAS ANY MEMBER OF YOUR FAMILY EVER COMPETED AT THE INTERNATIONAL OR ELITE LEVEL?
14. WHAT SPORTS DO/DID YOU PLAY IN HIGH SCHOOL?
15. WHAT SPORTS DO/DID YOU PLAY IN COLLEGE?
16. WHAT SPORTS DID YOU GROW UP WITH?
17. WHAT IS YOUR FIRST MEMORY OF COMPETITION?
18. LIST THREE OF THE MOST IMPORTANT VALUES THAT WERE INSTILLED IN YOU AS A CHILD.
  - 1.
  - 2.
  - 3.
19. HAVE YOU EVER PLAYED ON A STATE TEAM/JUNIOR OLYMPIC TEAM?

20. WHAT IS THE NAME OF THE INSTITUTE YOU PLAYED FOR OR ARE PLAYING HOCKEY FOR AT THIS TIME?
21. WHAT IS THE NAME OF YOUR COACH?
22. WHAT WAS YOUR HIGHEST TEAM RANKING AT THE END OF THE SEASON?
23. HOW MANY TIMES DID YOU COMPETE AT THE FINAL FOUR?
24. WAS YOUR COLLEGE COACH A MAJOR INFLUENCE ON YOUR DEVELOPMENT AS AN ATHLETE?
25. WHY WAS YOUR COLLEGE COACH A MAJOR INFLUENCE ON YOUR DEVELOPMENT AS AN ATHLETE?
26. WHAT PEER GROUP WOULD YOU IDENTIFY YOURSELF AS IN HIGH SCHOOL?
27. DO YOU FEEL AS IF YOU WERE SUCCESSFUL WITH YOUR ATHLETIC CAREER?
28. WERE YOU REWARDED FOR YOUR ACCOMPLISHMENTS?
29. WHY DO YOU THINK YOU ARE THE "ATHLETE " YOU ARE TODAY?
30. WHEN DID YOU FIRST DREAM OF BEING AN OLYMPIAN?

## **Appendix C**

### **Forte Profile**





•INTERPERSONAL COMMUNICATIONS•

## communication survey

Phone: 609-988-5483  
FAX: 609-596-8359

# survey 1

Date \_\_\_\_/\_\_\_\_/\_\_\_\_ Social Security Number \_\_\_\_-\_\_\_\_-\_\_\_\_  
First Name \_\_\_\_\_ Last Name \_\_\_\_\_ Sex: M F  
Organization \_\_\_\_\_ Position \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_ Phone \_\_\_\_-\_\_\_\_-\_\_\_\_

Circle the numbers below which best describe **How You Feel You Really Are**  
(when not under outside pressure). *Mark your responses quickly, as your first response is usually best!*

This is a survey.  
There are no right  
or wrong answers.

Guide: 1-Rarely 2-Seldom 3-Sometimes 4-Often 5-Usually

- |                                  |                                  |                                 |
|----------------------------------|----------------------------------|---------------------------------|
| 1. Individualistic ... 1 2 3 4 5 | 11. Daring ..... 1 2 3 4 5       | 21. Aggressive ..... 1 2 3 4 5  |
| 2. Spirited ..... 1 2 3 4 5      | 12. Demanding ..... 1 2 3 4 5    | 22. Industrious ..... 1 2 3 4 5 |
| 3. Shy ..... 1 2 3 4 5           | 13. Persuasive ..... 1 2 3 4 5   | 23. Compassionate . 1 2 3 4 5   |
| 4. Stick-to-it ..... 1 2 3 4 5   | 14. Outgoing ..... 1 2 3 4 5     | 24. Careful ..... 1 2 3 4 5     |
| 5. Understanding ... 1 2 3 4 5   | 15. Earnest ..... 1 2 3 4 5      | 25. Controlling ..... 1 2 3 4 5 |
| 6. Precise ..... 1 2 3 4 5       | 16. Pleasant ..... 1 2 3 4 5     | 26. Thoughtful ..... 1 2 3 4 5  |
| 7. Spontaneous ..... 1 2 3 4 5   | 17. Stable ..... 1 2 3 4 5       | 27. Charming ..... 1 2 3 4 5    |
| 8. Logical ..... 1 2 3 4 5       | 18. Kindhearted ..... 1 2 3 4 5  | 28. Calm ..... 1 2 3 4 5        |
| 9. Cautious ..... 1 2 3 4 5      | 19. Enthusiastic ..... 1 2 3 4 5 | 29. Fussy ..... 1 2 3 4 5       |
| 10. Talkative ..... 1 2 3 4 5    | 20. Impulsive ..... 1 2 3 4 5    | 30. Agreeable ..... 1 2 3 4 5   |

Be sure all 30 responses are circled. Then complete survey 2.

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# survey 2

Complete **after** finishing survey 1 above.

**Note: Instructions are different from survey 1.**

Circle the numbers below which best describe **How Others Expect You To Act at Work.**

Guide: 1-Rarely 2-Seldom 3-Sometimes 4-Often 5-Usually

- |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|
| 1. Competitive ... 1 2 3 4 5   | 11. Persistent ..... 1 2 3 4 5 | 21. Forceful ..... 1 2 3 4 5   |
| 2. Sophisticated ... 1 2 3 4 5 | 12. Bold ..... 1 2 3 4 5       | 22. Confident ..... 1 2 3 4 5  |
| 3. Tolerant ..... 1 2 3 4 5    | 13. Esteemed ..... 1 2 3 4 5   | 23. Sympathetic ... 1 2 3 4 5  |
| 4. Dynamic ..... 1 2 3 4 5     | 14. Eager ..... 1 2 3 4 5      | 24. Accurate ..... 1 2 3 4 5   |
| 5. Serious ..... 1 2 3 4 5     | 15. Congenial ..... 1 2 3 4 5  | 25. Conventional ... 1 2 3 4 5 |
| 6. Responsive ..... 1 2 3 4 5  | 16. Patient ..... 1 2 3 4 5    | 26. Charitable ..... 1 2 3 4 5 |
| 7. Dominant ..... 1 2 3 4 5    | 17. Steady ..... 1 2 3 4 5     | 27. Appealing ..... 1 2 3 4 5  |
| 8. Self-assured ... 1 2 3 4 5  | 18. Relaxed ..... 1 2 3 4 5    | 28. Neighborly ..... 1 2 3 4 5 |
| 9. Loyal ..... 1 2 3 4 5       | 19. Convincing ..... 1 2 3 4 5 | 29. Assertive ..... 1 2 3 4 5  |
| 10. Outstanding ... 1 2 3 4 5  | 20. Popular ..... 1 2 3 4 5    | 30. Gentle ..... 1 2 3 4 5     |

## GREENTREE MARKETING GROUP

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**Appendix D**  
**Forte Monograph**

# **The Forté™ Monograph**

## **Forté™ Interpersonal Communications, Inc.**

This monograph provides an overview of the research done in developing the Forté™ computer based communication style programs.

Research from many sources was blended to develop this interpersonal communications tool.

This monograph does not include proprietary formula or data. It represents the sum total of information available for review. The Forté™ systems are copyrighted and the sole property of C.D. "Hoop" Morgan III. Forté™ Interpersonal Communications, Inc. holds marketing rights to certain Forté™ systems. Duplication of any Forté™ materials is strictly forbidden without the written permission of Forté™ and Mr. Morgan.

Most communication style surveys available today fall into these categories:

- A. Those based on a theory origin system (cognitive).
- B. Those which originated as statistically validated instruments (quantitative).

The Forté™ system is a quantitatively validated instrument (B). What sets it apart from other instruments is the conversion of data into high-level mathematical formulas processed by a personal computer. By developing a quick, easy-to-use data collection system, a computer-generated descriptive communication style report is processed in less than two minutes.

Equally important was the development of easy-to-read, understandable reports to be shared with others for enhanced interpersonal communication.

The research processes first sought to establish the statistics. Field studies followed the statistics. The acute sensitivity of the instrument continues to unfold as it finds broadened usage in the business, industrial, and service communities.

Prior to the era of the 1970's, reference materials in university libraries listed well-known and accepted concepts of personality and interpersonal communication such as: Hippocrates' traits of behavior (melancholy, sanguine, choleric, and phlegmatic) expounded 400 years before Christ, the wisdom of the Old Testament's King Solomon: "... as a man thinks in his heart, so is he . . .," the "self-image" of Darwin, and habitualized reaction to stimuli as revealed in the studies of Pavlov's dogs.

The research focused on the respondent's reaction to words classified as adjectives or descriptors. Accuracy was proven following the criteria of: validation (construct, content, concurrent, and predictive), **reliability** (test and re-test), **structural invariance**, **trait intercorrelations**, and **intrinsic/extrinsic validity**. Continuing field testing procedures are used to refine the wording and uses of the instrument.

Communication style analysis determines, independently, the isolated reactive value of an adjective or descriptor. The next step was to identify a grouping of like-reactive value adjectives or descriptors (i.e. called primary trait loading) and determining what they signify. From the studies of L.L. Thurstone (The Vectors of the Mind: 1934), R.B. Cattell (Trait Clusters For Describing Personality, etc.: 1945 & 1950), J.P. and R.B. Guilford (Factor Analysis, etc.: 1954), D.W. Fiske (Personality Ratings, etc.: 1949), A.S. Daniels (Predictive Index: 1973), P. Horst (1968), and research accomplished in the decade of the 1970's a grouping of reactive-value adjectives or descriptors were identified as all evidencing high style loadings for each of the primary styles of the tool or instrument. The system of measuring styles obtained from three points of view (i.e. self, adapting environment(s), and how the individual is perceived by others) was further improved by developing a multiple complexity communication style analysis.

This is, simply, the cluster-sample technique. A sample is taken from identified strength clusters which allows the computer to project the actual behavior profile. The Forté™ survey card is a simulated environment of the real world. The individual taking the survey does not need to understand all the words, as the words are stimuli, to **trigger reaction**. A sampling, then, has meaning when properly computed.

The field case studies helped describe the behavior of individuals with similar responses to trait clusters. The system determined the type of and degree of behavior. Trait intensity was measured. Variance was determined.

The knowledge upon which the Forté™ system is based, is not new. The research methodology has been understood by investigators in both the academic and industrial communities for centuries. What is different about the Forté™ system is its state-of-the-art uniqueness... i.e. the end result is: **more effective internal communications through group and individual insights gained from the exchange of computer-generated reports**. To our knowledge, no other instrument can be so described at this time. The technology used by the Forté™ system became available with the personal computer finding its way into the world of commerce and industry. Thus, the Forté™ system is both old (historical data base) and new (technologically-advanced).

# Collective Forté™ Theoretical Discussions

Self description is actual human behavior studied by methods used in the search for consistencies in behavior. Theory suggests partial distortion is an inevitable characteristic of such data. Likewise, "erroneous" self-perceptions may predict actual behavior in some situations better than "objective" data derived from external sources. The practical use of self descriptions rely on the **assumption that respondents do not** intentionally distort their responses. This may be evidenced by the observed fact that respondents react **easily** to a **positive stimuli** and **with difficulty** to a **negative stimuli**.

Forté™ is unique in it's mathematical weighing of each descriptor, then further intensifying each trait with specific, individual reaction values for the corresponding Likert Scale (1 to 5).

Systematic tracking of self-descriptive data from large groups of people reveals certain consistencies in response patterns. These consistencies can be considered dimensions along which persons array themselves at defined positions. Such dimensions can be defined as "Introversion-Extroversion," as presented in the independent research of Cattell (1950) and Eysenck (1947). This communication style was originally described in the theories of the Swiss physician and psychologist C.G. Jung (1933).

Communication style dimensions can be used to locate a **communication style space** within which individuals locate themselves at particular points. Both Cattell and Eysenck found evidence of a two-dimensional space. Cattell even employs as many as 16 "factor" or style dimensions.

## The Development of Descriptors (Words on the Survey Cards)

The original descriptor list included 185 adjectives drawn from the works of Thurstone (1934), Cattell (1950), Guilford (1954), Fiske (1949), Daniels (1973), Horst (1968), and Solomon.

In the first experimental administration of the list, subjects were requested to respond to each adjective on a five-point Likert scale (1932) under two separate perceptions (Primary [Self]/Adapting to others). Factor analytic techniques (non-orthogonal factor structure, followed by appropriate rotations) were employed to reduce the dimensions of the instrument and identify appropriate adjectives. The final instrument contains 60 such adjectives -- these adjectives had factor loadings which exceeded .600 and were of complexity one. In addition, each of the 60 adjectives used on the Likert (1932) five-point scale (0, 2, 4, 6 and 8) correlated 0.547 or higher with each one of 19 considered factors. Intercorrelations among 11 selected primary factors range from -.03 to -.69.

## Distribution of Transformed Scores

2%	13%	20%	30%	20%	13%	2%
-2.054s	-1.036s	-.3853s	+.3853s	+ 1.036s		+ 2.054s

The above scale follows a normal distribution. For instance, a transformed score below or equal to -2.054 standard deviations occurs 2% of the time. On the other hand, a score equal to or in excess of +2.054 standard deviations would place an individual in the top 2% (percent) of the cases. A score between -.3853 standard deviations and a +.3853 standard deviations would occur in the middle 30% of the cases. All scores for each of the 19 considered factors were transformed by normalization procedures so that they follow the distribution described above. Using this formula, norming can be shown:

2%	13%	20%	30%	20%	13%	2%
-2.054s	-1.036s	-.3853s	+.3853s	+ 1.036s		+ 2.054s
-3s	-2s	-1s	+ 1s	+ 2s		+ 3s
			30.0%			
			70.0%			
			96.0%			

## Reliability

Reliability measures the extent of the consistency or stability of the testing instrument. Reliability coefficients are usually expressed as Pearson Product Moment Correlation Coefficients. Several approaches are available to researchers to demonstrate that an instrument is reliable. Both test-retest and split-half techniques (a measure of internal consistency) were selected.

## Split-Half Reliability

The data base was essentially divided into two halves, odd vs. even questions, for each of the 11 primary factors. For a random sample of the total population, the following reliabilities are reported:

Factor D	(Primary/Self)	-- r = .913
Factor E	(Primary/Self)	-- r = .901
Factor P	(Primary/Self)	-- r = .887
Factor C	(Primary/Self)	-- r = .923
Factor L	(Primary/Self)	-- r = .862
<hr/>		
Factor D	(Adapting & Adapting Track - Others)	-- r = .889
Factor E	(Adapting & Adapting Track - Others)	-- r = .886
Factor P	(Adapting & Adapting Track - Others)	-- r = .865
Factor C	(Adapting & Adapting Track - Others)	-- r = .901
Factor L	(Adapting & Adapting Track - Others)	-- r = .804

## Self/Environmental Style Descriptors

Style description of the Primary (self) and Adapting styles follows. Each style description is positive with high scores most characteristic of the style description.

### **STYLE: Dominance (Primary/Self)**

Respondents with high scores in Dominance view themselves as concerned with getting things done, very competitive, decisive, calculating and a risk taker. Respondents with low scores tend to see themselves as modest, congenial, cautious, and not a risk taker.

### **STYLE: Extroversion (Primary/Self)**

Respondents with high scores view themselves as outgoing, friendly, optimistic and persuasive. Respondents with low scores tend to see themselves as private, quiet, introspective, serious and reserved in social situations.

**STYLE: Patience (Primary/Self)**

Respondents with high scores view themselves as relaxed, stable, likeable, and at ease with life's complexities. Respondents with low scores tend to see themselves as intense, action-oriented, quick-minded, and anxious for change.

**STYLE: Conformity (Primary/Self)**

Respondents with high scores view themselves as very precise, careful, concerned about what is "right" and dedicated. Respondents with low scores tend to see themselves as very independent, free thinkers, not concerned about the "establishment," and more concerned about the big picture.

**STYLE: Logic (Primary/Self)**

Respondents with high scores view themselves as fact-oriented, altruistic, and subjective in their responses.

**STYLE: Dominance (Adapting & Adapting Track)**

Respondents with high scores view the important outside environment as expecting them to be authoritative, fearless, commanding and bold. Respondents with low scores believe that they are expected or trying to be congenial, deferring, and cooperative.

**STYLE: Extroversion (Adapting & Adapting Track)**

Respondents with high scores perceive themselves as needing or being expected to be gregarious, eloquent, enthusiastic, and a good mixer. Respondents with low scores are expected or trying to be creative, introspective and removed from too much people involvement.

**STYLE: Patience (Adapting & Adapting Track)**

Respondents with high scores perceive themselves as needing or being expected to be easygoing, dependable, and relaxed. Respondents with low scores perceive themselves as being expected to be hasty, quick-witted, intense, and change-oriented.

**STYLE: Conformity (Adapting & Adapting Track)**

Respondents with high scores perceive themselves as being expected to be disciplined, dedicated, precise, and devoted. Respondents with low scores perceive themselves as being or expected to be open-minded to change, unstructured, more freedom of choice and independent.

**STYLE: Logic (Adapting & Adapting Track)**

Respondents with high scores perceive themselves as being expected to be thoughtful, systematic, factual and objective. Respondents with low scores on this trait perceive themselves as expected to be ruled by the heart, feeling, sensitive to others, and emotional.



## Style Description Relationships

Relationships among the style descriptions are presented in Tables 1 and 2 for both the Primary and Adapting profiles. As Tables 1 and 2 indicate, the patterns of intercorrelations among the Primary and Adapting profiles are low to moderate.

**Table 1**  
**Correlations Among Styles in Primary/Self**

	Dominance	Extroversion	Patience	Conformity	Logic
Dominance	---	.40	.08	.06	.51
Extroversion	.39	---	.21	.20	.41
Patience	.28	.54	---	.54	.28
Conformity	.41	.20	.21	---	.39
Logic	.51	.06	.08	.40	---

**Table 2**  
**Correlations Among Styles in the Adapting & Adapting Track Environment**

	Dominance	Extroversion	Patience	Conformity	Logic
Dominance	---	.63	.02	.06	.39
Extroversion	.36	---	.12	.13	.33
Patience	.20	.55	---	.55	.20
Conformity	.33	.13	.12	---	.36
Logic	.39	.06	.02	.63	---

### Norms

Experimental norms have been established for respondents studied on each of the 19 factors (11 primary and 8 secondary). The subjects represent a wide variety of occupations of both sexes drawn from sales, military personnel, nurses, educational and administration students, stock brokers, ministers, attorneys and teachers. The distribution of responses tends to follow a negatively skewed distribution -- this is the case with instruments in which the subjects are requested to make ratings. However, the scores have been transformed by a non-linear normalization procedure so that they follow a normal distribution -- this transformation technique allows for easier interpretation as the transformed scores follow a normal distribution.

## Test - Retest Reliability

The test-retest reliability estimates are presented in Table 3. The values are three month retest coefficients.

<b>Table 3</b>	
<b>Three-Month Retest Reliability</b>	
<b>STRENGTHS</b>	
<b>Primary/Self:</b>	
Dominance	.83
Extroversion	.81
Patience	.78
Conformity	.85
Logic	.76
<b>Adapting Environment:</b>	
Dominance	.82
Extroversion	.80
Patience	.77
Conformity	.86
Logic	.71

The four scales have reliabilities in the .70s, and six scales have reliabilities in the .80s. The three month retest reliabilities compare very favorably with many achievement tests. They are somewhat higher than other nationally normed measures in such tools.

## Instrument Validity

The most appropriate validity measures are validation of the constructs in Jung's theory (1933) of type. Two types of information have impact on the validity of the Forté™ instrument: (1) The structural integrity of the trait descriptions, and (2) the instrument's ability to predict behaviors.

Structural integrity is a generic term including four coefficients: replicability, invariance, constancy, and stability; each of which indexes a desirable characteristic of measure. Nesselrode and Bates (1970) have formulated the concept of structural integrity which incorporates systematic style analytic procedures for establishing structural replicability, invariance, constancy, and stability. Each of the concepts is briefly described below.

- Replicability:** the extent to which a pattern, regularity, or configuration appears in essentially the same form in random samples or occasions, e.g., random replicates of individuals.
- Invariance:** the similarity of the configuration of the item structure across selected groups with varying characteristics, e.g., configurational similarity across race, sex, occupation, age, etc.
- Constancy:** the degree to which a pattern or configuration appears in essentially the same form in each quartile of the range of a measure or instrument.
- Stability:** the similarity of the pattern across two or more administrations of the instrument to the same subjects.

To determine the replicability of the style descriptions, four random sub-samples were drawn from each of the validation samples. The analytic procedure, previously outlined, was applied to each of the replicates. Each style estimation matrix was used to calculate style scores for each member of the total sample, thus yielding four separate estimates of an individual's score for each style. Correlation coefficient between style analysis score estimates from each replicate pair were computed producing six estimates of the coefficient of replicability for each style. Fisher's  $r$  to  $Z$  transformation was performed on each of the six coefficients of replicability for each style. The means and standard deviations of Fisher  $Z$  values were obtained and  $r$  equivalents of the mean Fisher  $Z$  values were computed. The forms of the Forté instrument are highly replicable with coefficients of replicability above .94 for all styles.

Since replicability across random sub-samples was demonstrated, the next concern was to investigate the invariance of the styles across race, sex, and occupation. A procedure identical to the one outlined above was applied to groups selected according to race, sex, and occupation, rather than by random selection procedure. There were four occupations (nurses, lawyers, ministers, and military), two race categories (white and non-whites) and two sex categories (males and females). Each of the styles is highly invariant across race, sex, and occupation with coefficients above .87 in all cases.

## Comparative Validity

This section deals with the extrinsic validity of the Forté™ tool, as well as other comparable instruments. In Table 4 are presented concurrent validity estimates in which selected style scores on the Forté™ survey are correlated with selected trait scores of the Predictive Index (Daniels, 1973), selected scales (Adjective Rating Scales) from Veldman and Parker (1970), and selected traits from the Self Index (Solomon and Houston, 1982).

<b>Table 4</b> <b>Concurrent Validity Estimates</b>			
<b>Forté™ Factors</b>	<b>Predictive Index</b>	<b>Adjective Rating Scales</b>	<b>Self Index</b>
Style D (Primary/Self)	Trait A (.75)	Trait 2 (.72) (Soc. Abrasiveness)	Trait B (.58) (Person/Style)
Style E (Primary/Self)	Trait B (.81)	Trait 4 (.69) (Int. RD/Ext. RD)	Trait A (.45) (Interpersonal)
Style P (Primary/Self)	Trait C (.63)		Trait C (.61) (Social attitude)
Style C (Primary/Self)	Trait D (.87)	Trait 6 (.64) (Individualism)	Trait D (.39) (Ego Behavior)
Style L (Primary/Self)	Trait E (.86)		
Style D (Adapting)	Trait A (.56)		
Style E (Adapting)	Trait B (.75)		
Style P (Adapting)	Trait C (.73)		
Style C (Adapting)	Trait D (.74)		
Style L (Adapting)	Trait E (.83)		

In review, the results of the procedures described in this monograph show a correlation of all adjectives was found to be .80 to 1.0 on the high range and .70 to 1.0 on the low, which exceeds generally accepted minima.

## Respondent Validity Studies

Ultimately, the criterion for any method of measuring communication style is its relevance to the goals of researchers. While it is impossible to assess the validity of an instrument for all of the potential uses to which it might be applied, an unreliable instrument cannot be expected to serve any useful purpose.

Forté™ takes the approach that the real validation and the ultimate refinement of the system rests on the candid responses of the subjects being profiled. Following is a summary of random responses received over the period 1984 through 1986. A self-validation page is now provided each respondent, so the validation is now on-going. After reviewing their individual printouts, the respondents were asked to rate the accuracy (validity) of the printout as it applied to them. The field update is scheduled for September 1992.

Responses:	% Accuracy	1,010 Random Sample	% of Total
	50 or Less	0	0
	60 - 70	15	1.5
	70 -80	15	1.5
	80 - 90	935	92.5
	90 - 100	45	4.5

This would indicate that approximately 97% of those profiled felt that the profile was over 80% accurate regarding them, while only 3% felt that it was less than 80% accurate.

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**Appendix E**  
**Question Results Tables**

TABLE #1

**HOW MANY CHILDREN DO YOU HAVE IN YOUR FAMILY?**

1.	3
2.	2
3.	2
4.	3
5.	2
6.	3
7.	3
8.	4
9.	4
10.	5
11.	2
12.	3
13.	11
14.	5
15.	3
16.	4
17.	4
18.	3

TABLE #2

**HOW MANY SISTERS DO YOU HAVE?**

1.	1
2.	0
3.	0
4.	1
5.	1
6.	0
7.	0
8.	3
9.	3
10.	3
11.	1
12.	1
13.	2
14.	1
15.	2
16.	1
17.	2
18.	2

TABLE #3

**HOW MANY BROTHERS DO YOU HAVE?**

1.	1
2.	1
3.	1
4.	1
5.	0
6.	2
7.	2
8.	0
9.	0
10.	1
11.	0
12.	1
13.	8
14.	3
15.	0
16.	2
17.	1
18.	1

TABLE #4

**DID YOU LIVE IN A NEIGHBORHOOD WITH MANY CHILDREN?**

1.	Y
2.	Y
3.	Y
4.	Y
5.	Y
6.	Y
7.	Y
8.	Y
9.	Y
10.	N
11.	Y
12.	N
13.	Y
14.	Y
15.	N
16.	N
17.	Y
18.	Y

TABLE #5

**WERE A MAJORITY OF THESE CHILDREN BOYS OR GIRLS?**

1. B
2. B
3. B
4. B
5. B
6. B
7. B
8. B
9. B
10. E
11. B
12. E
13. E
14. E
15. E
16. B
17. B
18. B

TABLE #6

**WHO, IF ANYONE, GOT YOU INVOLVED IN HOCKEY?**

1. MYSELF
2. HIGH SCHOOL COACH
3. HIGH SCHOOL COACH
4. NEIGHBORHOOD
5. MYSELF
6. JR. HIGH GYM TEACHER
7. DAD
8. SISTER
9. SISTERS
10. PARENTS
11. DAD
12. PARENTS
13. PARENTS
14. PARENTS
15. PARENTS
16. DAD
17. THING TO DO IN MIDDLE SCHOOL
18. DAD

TABLE #7

**WHO GOT YOU INVOLVED IN SPORTS?**

1. MYSELF
2. HIGH SCHOOL COACH
3. FRIENDS
4. NEIGHBORHOOD
5. MYSELF
6. PARENTS
7. DAD
8. DAD
9. SISTERS
10. PARENTS
11. DAD
12. PARENTS
13. PARENTS
14. PARENTS
15. PARENTS
16. DAD
17. PARENTS
18. DAD

TABLE #8

**DID YOUR PARENTS WATCH YOUR HIGH SCHOOL GAMES?**

1. Y
2. Y
3. Y
4. Y
5. Y
6. Y
7. Y
8. Y
9. Y
10. Y
11. Y
12. N
13. N
14. Y
15. Y
16. Y
17. SOME
18. Y



TABLE #9

**DID/DO YOUR PARENTS WATCH YOUR COLLEGE GAMES?**

1. Y
2. Y
3. Y
4. Y
5. Y
6. Y
7. A FEW
8. Y
9. Y
10. Y
11. Y
12. A FEW
13. N
14. Y
15. Y
16. Y
17. SOME
18. Y

TABLE #10

**ARE YOUR PARENTS ATHLETIC?**

1. `SOMEWHAT
2. Y
3. Y
4. Y-DAD
5. Y
6. Y
7. Y-DAD
8. Y
9. Y
10. Y
11. Y
12. Y
13. Y
14. Y
15. Y
16. Y
17. Y-DAD
18. Y

TABLE #11

**HAS ANY MEMBER OF YOUR FAMILY EVER COMPETED AT THE COLLEGIATE LEVEL?**

1.	N
2.	Y
3.	N
4.	Y
5.	N
6.	Y
7.	N
8.	Y
9.	Y
10.	Y
11.	Y
12.	Y
13.	Y
14.	Y
15.	Y
16.	Y
17.	N
18.	N

TABLE #12

**HAS ANY MEMBER OF YOUR FAMILY EVER COMPETED AT THE INTERNATIONAL OR ELITE LEVEL?**

1.	N
2.	N
3.	N
4.	N
5.	N
6.	Y
7.	N
8.	Y
9.	Y
10.	N
11.	Y
12.	N
13.	N
14.	N
15.	N
16.	N
17.	N
18.	N

TABLE #13

**WHAT SPORTS DID YOU PLAY IN HIGH SCHOOL?**

1. HOCKEY, LX, ICE HOCKEY, BASKETBALL
2. HOCKEY, BASKETBALL, SOFTBALL
3. HOCKEY, BASKETBALL, TRACK, SWIMMING
4. HOCKEY, BASKETBALL, TRACK
5. HOCKEY, TRACK, SOCCER
6. HOCKEY, BASKETBALL, TRACK
7. HOCKEY, BASKETBALL, SOFTBALL
8. HOCKEY, BASKETBALL, TRACK
9. HOCKEY, BASKETBALL, SOFTBALL
10. HOCKEY, LX, SOFTBALL, BASKETBALL
11. HOCKEY, BASKETBALL, TRACK, SOFTBALL
12. HOCKEY, LX, TENNIS, BASKETBALL
13. HOCKEY, BASKETBALL, SOFTBALL
14. HOCKEY, BASKETBALL, SOFTBALL
15. HOCKEY, BASKETBALL, SOFTBALL, TRACK
16. HOCKEY, SOCCER, TRACK
17. HOCKEY, BASKETBALL, SOFTBALL, SKIING
18. HOCKEY, BASKETBALL, TRACK, SOFTBALL

TABLE #14

**WHAT SPORTS DO/DID YOU PLAY IN COLLEGE?**

1. HOCKEY
2. HOCKEY
3. HOCKEY
4. HOCKEY
5. HOCKEY
6. HOCKEY
7. HOCKEY
8. HOCKEY
9. HOCKEY
10. HOCKEY, LX
11. HOCKEY, LX
12. HOCKEY
13. HOCKEY, LX
14. HOCKEY, LX
15. HOCKEY
16. HOCKEY
17. HOCKEY
18. HOCKEY

TABLE #15

**WHAT SPORTS DID YOU GROW UP WITH?**

1. STREET HOCKEY, KICKBALL, KILL THE MAN WITH THE BALL, DODGEBALL, TENNIS ICE HOCKEY
2. FOOTBALL, SOCCER, SOFTBALL
3. SWIMMING, TENNIS, RAQUETBALL
4. ICE HOCKEY, BASKETBALL, BASEBALL, FLAG FOOTBALL
5. KICKBALL, SOFTBALL
6. GYMNASTICS, DIVING, HOCKEY
7. CAPTURE THE KID, BASEBALL
8. KICKBALL, KICK THE CAN, DODGEBALL, SPUD
9. STREET AND ROLLER HOCKEY, FOOTBALL, BASKETBALL
10. RIDING, TENNIS CYCLING, SMEAR THE QUEER, FLASHLIGHT TAG, SWIMMING, SHOOTING, RUNNING
11. SOFTBALL, SWIMMING, GYMNASTICS, KICKBALL, WHIFFLEBALL, TAG, HIDE AND SEEK, SPUD
12. SOCCER, TENNIS, WATER SKIING
13. ICE HOCKEY, BASKETBALL, BASEBALL, SOCCER
14. TENNIS, SWIMMING, WATER SKIING, SOFTBALL, BASEBALL, TRACK AND FIELD, VOLLEYBALL
15. BASKETBALL, TRACK VOLLEYBALL, KICKBALL, SOFTBALL
16. STICKBALL, GYMNASTICS, KICKBALL, SOFTBALL
17. BASEBALL, STREET HOCKEY, BASKETBALL, FOOTBALL
18. SOCCER, MIDNIGHT/MIDNIGHT, KICK THE CAN

TABLE #16

**WHAT IS YOUR FIRST MEMORY OF COMPETITION?**

1. 5 years of age, sharing a bed with her sister and trying to keep her feet warm
2. 7th grade cross country meets, running
3. 6 years of age swim team
4. 2nd grade, ice hockey
5. 9 and 10 years of age, soccer and diving
6. Gymnastics meet
7. Playing t-ball for the Grants
8. Fighting with sister for shotgun (the front seat of a car)
9. Having the other team say that my run did not count
10. Dodgeball
11. Under 8 swim meet
12. 6 years of age, little league soccer
13. Playing King of the couch with brothers
14. 4th grade tennis tournaments and softball league
15. Jr. high basketball game
16. Competing for parents attention
17. kickball game in 3rd grade
18. trying to beat Dad at miniature golf in Florida

TABLE #17

**LIST THREE OF THE MOST IMPORTANT VALUES THAT WERE INSTILLED IN YOU AS A CHILD.**

1. Communication, be yourself, education/learning
2. Competitive, supportive, be a good person
3. Discipline, be proud of who you are, no one is perfect
4. Supportive, loving, safe
5. Religion, well behaved, make own decisions
6. Never lie, work hard, respect others
7. Family, no stealing, commitment
8. Competitive, make your own decisions, supportive
9. Competitive, fun, aggressive
10. Stability, loving, support
11. Love, trust and honesty, kindness/caring
12. Hard work, doing things well, education
13. Honesty, never quit, put others first
14. Do your best, honesty, happiness
15. Honesty believe in yourself, trustworthy
16. Modesty, do your best, be fair
17. Religion, work oriented, perfection
18. Competitiveness, honesty , gender equality

TABLE #18

**HAVE YOU EVER PLAYED ON A STATE TEAM/JUNIOR OLYMPIC TEAM?**

1. Junior Olympic Team
2. State and Junior Olympic Team
3. No
4. No
5. Junior Olympic Team
6. State and Junior Olympic Team
7. No
8. No
9. State and Junior Olympic Team
10. Junior Olympic Team
11. No
12. Junior Olympic Team
13. No
14. No
15. State and Junior Olympic Team
16. State and Junior Olympic Team
17. No
18. No

TABLE #19

**WHAT IS THE NAME OF THE INSTITUTE YOU PLAYED FOR OR ARE PLAYING HOCKEY FOR AT THIS TIME? AND WHAT IS THE NAME OF YOUR HEAD COACH?**

1.	University of North Carolina	Karen Shelton
2.	University of North Carolina	Karen Shelton
3.	University of North Carolina	Karen Shelton
4.	University of Iowa	Judith Davidson
5.	Penn State	Char Morett
6.	University of Connecticut	Nancy Stevenson
7.	University of Iowa	Beth Beglin
8.	University of Maryland	Missey Meharg
9.	University of Connecticut	Diane Wright
10.	Northwestern University	Nancy Stevenson
11.	Old Dominion University	Beth Anders
12.	University of Iowa	Beth Beglin
13.	University of Massachusetts	Pam Hixon
14.	University of New Hampshire	Marissa Dittio
15.	University of New Hampshire	Robin Balducchi
16.	University of Maryland	Missey Meharg
17.	Northwestern University	Nancey Stevenson
18.	Penn State	Char Morett

TABLE #20

**WHAT WAS YOUR HIGHEST TEAM RANKING AT THE END OF THE SEASON? AND HOW MANY TIMES DID YOU COMPETE AT THE FINAL FOUR?**

1.	1	3
2.	1	3
3.	1	4
4.	1	2
5.	2	4
6.	12	0
7.	2	4
8.	1	1
9.	1	2
10.	3	1
11.	1	4
12.	2	4
13.	2	3
14.	9	0
15.	15	0
16.	1	0
17.	3	1
18.	3	4

TABLE 21

**WAS YOUR COLLEGE COACH A MAJOR INFLUENCE ON YOUR DEVELOPMENT AS AN ATHLETE?**

1. Yes
2. Yes
3. No
4. No
5. Yes
6. Yes
7. Yes
8. Yes
9. No
10. Yes
11. Yes
12. Yes
13. Yes
14. Yes
15. Yes
16. Yes
17. Yes
18. Yes

TABLE #22

**WHAT PEER GROUP WOULD YOU IDENTIFY YOURSELF AS IN HIGH SCHOOL?**

1. Jock
2. Jock/prep
3. Jock/popular
4. Jock/hero
5. Jock/click
6. Jock
7. Jock
8. Jock/social
9. Jock
10. Jock
11. Jock
12. Jock
13. Jock
14. Jock
15. Jock/popular
16. Jock
17. Did not have one
18. Jock/click

TABLE #23

**DO YOU FEEL AS IF YOU WERE SUCCESSFUL WITH YOUR ATHLETIC CAREER? AND WERE YOU REWARDED FOR YOUR ACCOMPLISHMENTS?**

Everyone answered yes for both questions

TABLE 24

**WHEN DID YOU FIRST DREAM OF BEING AN OLYMPIAN?**

1. Jr. High School
2. Jr. High School
3. College
4. Grade School
5. College
6. Grade School
7. Grade School
8. Jr. High School
9. Grade School
10. College
11. College
12. Grade School
13. Grade School
14. High School
15. High School
16. Grade School
17. College
18. Grade School



**Primary Trait**  
Table #25

This trait has more influence than the other traits and normally constitutes 50 to 70 percent of the individual's communication and self-motivation preferences. There are four primary traits: D=Dominance (Controlling), E=Extroversion (Outgoing), P=Patience (Paced) and C=Conformity (Systematic).

1. Conformity
2. Extroversion +
3. Dominance
4. Dominance
5. Patience
6. Dominance
7. Patience
8. Extroversion
9. Extroversion
10. Conformity
11. Conformity
12. Extroversion
13. Patience
14. Dominance
15. Dominance
16. Conformity
17. Patience
18. Extroversion

**Secondary Trait**  
Table # 26

All traits and their location in the profile have a direct effect on the high trait and how it is used. The secondary trait is the largest number below the line. These traits are: LD=Low Dominance (Cooperative), I=Introverted (Reserved), IP=Impatient (Urgent) and NC=Non-Conformist (Independent).

1. Low-dominance
2. Impatience
3. Impatience
4. Non-conformity
5. Introversion
6. Introversion
7. Non-conformity
8. Non-conformity
9. Low-dominance
10. Introversion

11. Introversion
12. Non-conformity
13. Introversion
14. Non-conformity
15. Impatience
16. Introversion
17. Introversion
18. Impatience

**Logic Style**  
Table # 27

Logic or decision making style addresses the different approaches to making decisions. Forte categorizes three ways of making decisions. They are: Feelings, Fact, Fact/Feelings

1. Feelings
2. Fact/feelings
3. Fact/feelings
4. Feelings
5. Facts
6. Facts
7. Feelings
8. Feelings
9. Facts
10. Feelings
11. Feelings
12. Feelings
13. Feelings
14. Feelings
15. Fact/feelings
16. Feelings
17. Feelings
18. Fact/feelings

**Stamina Level**  
Table # 28

Stamina reflects the degree of endurance, awareness, and responsiveness present in the person. Anything that is alive will respond to a stimulus. This tool measures how responsive to stimuli the person is when compared to other individuals.

1. High
2. Above average
3. High

4. Above average
5. High
6. High
7. Very High
8. High
9. Above average
10. Very High
11. High
12. High
13. High
14. Above average
15. Very High
16. High
17. Above average
18. Very High